THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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For the Farmers' Cabinet.

Magnesian Lime, No. 3.

Perhaps, strictly and scientifically speaking, there is but one variety of lime, that is, pure lime uncombined with any other substance. But in common language we say there are different varieties of lime, meaning thereby that the properties of lime are modified by its being combined or mixed with other earths, such as magnesia, clay, sand, &c. And as this common language is quite sufficient for all common purposes, we shall take the liberty of using it in its common acceptation on the present as on former occasions. Lime in a pure or uncombined state is not found in nature. It may however be procured in a nearly pure state, in the large way, from the finer kinds of chalk, and some varieties of sea-shells, by merely calcining them. It appears also that some varieties of limestone in England, probably belonging to the upper secondary class, furnish it in nearly a pure state. To this variety of lime the term mild lime is sometimes applied in contradistinction to magnesian or hot lime.

It is probable that but a very small portion of the limestone on the south-east side of the Alleghany Mountain would furnish this kind of lime, most of it having a large portion of magnesia in its composition. The secondary limestones of our western country, particularly some of the upper portions of them, may furnish the mild lime. These are questions, however, by no means decided, and which will require much further investigation before they can be. But enough is known to warrant us in saying that a large portion of the limestone of south-eastern Pennsylvania yields the magnesian lime.

It appears from abundant testimony that a much larger portion of mild lime can be applied, as manure, to a given quantity of land, than of the magnesian variety. But whether a benefit can be obtained from it in proportion to the quantity used, over the other variety, seems not so clearly ascertained. In the present state of knowledge, the contrary doctrine would appear the most probable. I recollect to have read somewhere (though I have not the work at hand to refer to) that as much as 400 bushels of mild lime have been put on an acre in England with good effect, and that if this kind of lime be left neglected in heaps, the grass will grow up through the outskirts of them, and instances have been known of grass growing entirely over the heaps. In the account of the application of lime to land in the Forest of Brecon, in South Wales, to be found at p. 14 of vol. 3 of the Farmers' Cabinet, it is stated that the quantity put on was from 30 to 60 barrels (of 30 gallons each) to the acre at a dressing, that is about from 100 to 200 bushels per acre, we presume. It is also stated that a dressing of 35 barrels, or near 120 bushels per acre, without any other manure, produced a yield of wheat 50 per cent. greater, than another part of the same field dressed with dung, but without lime, and this too on a soil exhausted by constant cropping. From our knowledge of the effects of magnesian lime in this country, and from the description given of the limestone in the article above referred to, it seems probable that it was the mild lime that was used.

At p. 348 of vol. 4 of the Farmers' Cabinet an account is given of a kind of lime procured from a particular side of *the Valley* (the Great Valley of Chester county we presume is meant), which, when placed in heaps for slaking, the grass grew up through it where the lime was several inches in thickness, while a lime procured from the opposite side of the valley destroyed all kinds of vegetation under the heaps, if left lay for any considerable time. The former of these is probably a mild or pure lime, or nearly approaching it, —the latter a hot or magnesian lime. It is a fact well known to our farmers that the common or magnesian lime of Pennsylvania cannot be applied in anything like the quantities above mentioned without very materially lessening the subsequent crops, both in quantity and quality, and sometimes rendering the land entirely unproductive for years. But it is equally well known to them that, applied in smaller quantities and in a proper manner, it is highly beneficial.

May not then all this pother and hubbub which have been raised about the deleterious nature of magnesian lime be owing, so far as it may be countenanced by experience, to the want of proper attention to its peculiar qualities, and the consequent mistake of using it in too large quantities? Should a farmer, accustomed to use the mild lime, put on the same quantity per acre of magnesian lime as of the former, he could scarcely fail to ruin, or seriously injure his land, while a less quantity might have been used with great advantage.

In England it seems to have been well ascertained that mild lime is highly valuable as a manure, and we think that the experience of Pennsylvania has proved beyond a reasonable doubt that the magnesian variety can be used with great advantage for the same purpose. The most prominent questions which would seem now to remain undecided are, as to the comparative value of the two kinds of lime to the farmer, and whether each can be applied with equal benefit to all crops indiscriminately, or whether one kind of lime be better suited to some kinds of crops, and the other to other kinds?

That much larger quantities of mild than of magnesian lime can be applied without injury to a given quantity of land seems highly probable; but will it produce a correspondent increase of crops? This is an important inquiry, particularly where lime has to be carried a great distance. For if it requires 200 bushels of mild lime to produce as great an effect as 100 bushels of magnesian, there would evidently be no economy in the use of the former, unless the magnesian cost more than double the price of it.

Again, there is some reason to suppose that mild lime is better adapted to the production of grasses than the magnesian, or at least there will not be found so much difference in the proportion between the product, and the quantity of the different kinds of lime used in these as in some other crops. But this is only a conjecture, and requires to be verified by extensive, varied, and long-continued experiments before any reliance can be placed on its correctness.

Let then all those who feel an interest in the subject, and have an opportunity of procuring both kinds of lime, bend all their energies to the solution of these problems, by varied, well-conducted, and long-continued experiments, and give the result to the public; by these means they will be adding to our stock of useful knowledge, and do more towards deciding the whole question at issue than by merely writing essays on it till doomsday.

S. Lewis.

Mar. 3, 1842.

Ploughing Stiff Soils.

It is a generally received maxim among intelligent farmers, that the more perfectly soil of this character is pulverized by judicious and thorough ploughing, harrowing and rolling, the more prolific will it be in its products. This maxim is, we think, founded on common sense and reason, and justified by the practice of centuries; and we are pleased to find, that a greatly increased attention is being paid to its importance, from which we augur the happiest results. The propriety of ploughing such soils deeply, we are also pleased to find is becoming fashionable. But still there is one thing that we desire to see gaining upon the affections of husbandmen—we mean *subsoil-ploughing*. There can be no question, that the greater the depth to which the plough may penetrate into a *healthful* subsoil, the better will be the chance of the plants finding pasturage. An objection with many has obtained against deep ploughing, because, in some instances, the mellow and productive surface-soil, which had been meliorated by the culture and application of manures for an age, had been turned down, and its place supplanted by subsoils not only infertile, but possessing properties noxious to healthful vegetation. This is all very true—and it is equally true, that the fertility of such soils was not restored until after applications of large stores of animal and calcareous manures. This, however, is not so much the fault of deep ploughing, as it is the result of the improper method of doing it. Therein we maintain the error lay; and it is our intention to promote an avoidance of that error, by pointing out the method by which it may be accomplished. Although we are the advocates of deep ploughing, in order to provide ample pasturage for plants, we are only so far so, as good and not injury will result therefrom, and, therefore we propose that while the share-plough only penetrates so far as the earth may have been previously turned up, in the course of cultivation, that it shall be followed, in the same furrow, by a subsoil-plough, so constructed as to *loosen without turning up* any portion of the subsoil. If by this operation, two or three inches additional depth at a time, be laid open to the action of sun and air, and the meliorating influence of the decomposing manure covered up by the first plough, by the succeeding year, one-half of the loosened surface, in depth, may be brought to the surface with decided advantage; and, if necessary, to that extent, may the subsoil-plough be employed to penetrate beneath the point at which the first experiment was made. We say this, because to us it is evident, that the causes and agencies of which we have spoken, will, in the interim,

have wrought such a change in the condition of the first body of sub-soil penetrated the previous year, as to justify its being brought to the surface. If this can be effected, and the thing is so self-evident, that we think few will doubt it, we would ask, are not the chances greatly in favour of the plan we propose? Is it not reasonable that, in the enlarged sources of gaining nutriment which would be thus unfolded to the roots of plants, they would prosper better than before? Our common-sense view of things tells us that such would be the inevitable effects produced. And there is no one who may have traced the astonishing depths to which the roots of various plants penetrate, even through *hard-pan* subsoils, that will, for a moment, doubt the justness and propriety of our conclusions. We have admitted, that subsoils which have not been disturbed, and consequently have not received the meliorating influences of sun and air, should not be turned up in that state; but in this admission we do not concede the point that they are always to remain in that condition. Our plan presupposes the practicability of neutralizing, by the application of proper means, whatever, in the constituent properties of such soils there may be pernicious to the growth of plants, and by so doing, not only to encourage, but positively to enhance, the productive capacities of such land. Deep fertile soils, we all admit to be the best adapted to the purposes of culture, and surely there can be nothing wrong, where it may be practicable, in deepening soils where we find them less deep than they should be.

In Flanders, where agriculture is conducted with persevering industry and intelligence, by means of pursuing a system of enlightened manuring and trench-ploughing, for a series of years, the soil has been deepened until it has assumed a depth of from 18 inches to 2 feet. This desirable object has been attained, not by turning up the earth to that extent at once, but by a patient persistence in a course of culture which looked to a gradual achievement of the end in view. There, owing to their superior economy of manure, and, consequently, its freer and more generous use, the agricultors are enabled to use the trench-plough and turn up the maiden earth; because in their facilities for changing its character, they have a sure guarantee for so doing. But with us, we think the plan of subsoil-ploughing, and previous partial melioration, is the more preferable one, and hence we advise its adoption.

There is another view which we take of this question, from which we think good would arise. By opening the earth to the depth we propose, in stiff soils, a greatly increased field would be presented for the absorption of rain, whenever it might fall in quantities of excess; by which means the roots of growing crops would be relieved from that serious evil, and vegetation would go on healthfully.

In all cases where a field may be submitted to the operation of subsoil-ploughing, unless a strong clover-lay be turned down, a good dressing of compost, stable, or cow-yard manure, should be given it—and where the soil is not naturally calcareous, or has not previously received a dressing of lime, one should be administered.—*Am. Far.*

For the Farmers' Cabinet.

Law Courts.

Mr. Editor, — Having sold out early on Saturday last, at Philadelphia market, I thought I would visit the law courts a short time before my return home, and cannot but think, if some of my neighbours, whom I could mention, would sometimes indulge their *propensity* in a taste of the expensive article *second-hand*, it might save them much money and time, and more anxiety and unhappiness. I found that the cause on trial was one of a vexed nature, relating to property, which I could not understand; the witness up on cross-examination being a distant neighbour, a plain farmer like myself, whose situation was anything but enviable—indeed, the opposing counsel had, by cross-questioning, reduced him to a non-entity! I pitied my poor friend from my heart, and wondered how I should appear in such a situation — in the midst of half a dozen men sitting round a table, and with pens in their hands recording every word the moment I should utter them, in the hope of making me eat them by and by—with countenances screwed up for the sport, and crouching like tigers to make a spring at their prey the instant it should fall into their net! I felt such horror at the scene that I left in disgust; and on my peaceful and plodding journey home in my wagon, *wondered* what would be the result if a witness were to decline answering any question which was not relevant to the business on hand. Perhaps I shall be told he would be committed to prison for contempt of court—but with a proper deference for the court and all connected with it, I cannot but believe that a man would be justified in his refusal, if it were offered upon proper grounds. I pursued the inquiry in my mind until I had concocted an address to the judge—supposing myself to be the unfortunate being "up for cross-examination," which I here set down for your perusal, and, if you think proper, for publication; this being on a business with which many of our class of the community

are too well acquainted, although it might not come under the head either of agriculture, horticulture, or rural affairs.

"Q. What is your name? A. John Smith. Q. Where do you dwell? A. At D. Q. What is your occupation? A. I am a farmer. Q. Where does—A. I beg pardon, but may I be permitted to address a very few words to the court? C. You may: say on.

"Gentlemen of this honourable court:—I come here to answer to the best of my ability every question that might be put to me relevant to the cause on trial. I have sworn to speak the truth, the whole truth, and nothing but the truth, and have invoked the Almighty to enable me to do so. I have neither prejudice nor preference—I respect the opposing counsel and I honour the court, and it is perfectly indifferent to me which way the trial terminates; but after this, I wish to be permitted to say, I have made up my mind, solemnly and fearlessly, not to answer any question that is not relevant to the subject on hand, and of such relevancy I must be allowed to judge for myself. I have told you my name, my residence and my occupation, by that you will know where to find me if I bear false-witness, and this I consider sufficient. If my mind is to be disturbed by cross-questions that have nothing earthly to do with the subject, and if I am to be harassed and baited like a bull at the stake, I may lose my temper and offer indignity to the counsel whom I respect, or to the court which I honour — no one knows how I might commit myself—I have, therefore, in the fear of God and relying on his assistance, determined to answer no questions that do not bear on the business, and upon which I have been subpœnaed much against my will and my convenience; and in this my resolution, I throw myself upon the court for protection."

Now I should like to know what would be the result of such an address? I may be told the judge is to decide what is relevant and what is not, and to him an implicit obedience must be yielded; but I should fear for myself in the hands of any judge that I have ever yet known, and I have never heard of but one who did what I consider his duty in this respect, and his name I now forget. It was on occasion of Vicary Gibbs, when, as counsel, tormenting a witness even to distraction, that he exclaimed, "you scorpion, let the man alone." I grant there may be circumstances and situations in which the rule would not work, but it is the universal cross-questioning of every witness who appears in court that I deprecate. A man of good sense and sound judgment can easily discriminate between individuals that are brought before him, and, assuredly, the poor friend, of whom I have been speaking, might have been *seen through* at a glance by any man of discernment in his profession, and I could not but consider him a proper object for the protection of the court. But I bless God that I am totally ignorant on this subject, never yet having been in any court, either as plaintiff, defendant or witness, and fear that on trial I should be found quite as "non compos" as my friend and neighbour, who, even yet, has not regained his usual serenity of mind and self-possession.

There is, however, another business of a more legitimate nature, of which I am more competent to form a judgment, upon which I shall soon have to address you, and which admits of no *cross-questioning;* it is on the planting of potatoes — a thread-bare subject truly, but one that ought to be examined into, for I am loth to believe that while the "Vermonters" can raise their 1800 bushels per acre, we must of necessity be compelled to content ourselves with about half a quarter of that quantity. Now as this is a question which I cannot *understand*, I cannot *believe* anything about, and am not therefore prepared to receive the statement upon trust. I am preparing to put the matter to the test of experiment, and hope to present you with the result for publication in your very useful pages at some future day. VERITAS.

March 15, 1842.

On Cutting Cattle Food.

A DIVERSITY of opinion exists among some of our correspondents, as to the length which hay and straw is most advantageously cut for horses and cattle—one party contending that an inch is short enough, and the other that it is not. We incline to the former opinion, and we would respectfully offer our reasons. The object in using the straw-cutter is to prevent waste, and to facilitate the process of mastication. It is not enough to get the food into the stomach, but it should go there in a proper condition for easy digestion—in a perfect masticated form, the fibre broken down, and intimately incorporated with the saliva of the glands. It is uniformly enjoined upon persons who are sickly, or have weak stomachs, and it is a common admonition to the hale, to eat slow, and to chew well their food before they swallow it, that it may more readily digest. And we see that cattle, high-fed with corn and oats, often void the perfect grain, without its having benefited them a particle. Whether this would not be more or less the case with fine-cut hay, we cannot judge from observation, but we are told it would be so. There is another difficulty to be apprehended from short-cut food, if given to ruminating animals, as cattle or sheep, which chew the cud — that they would be

very liable to lose this indispensable requisite to health. At all events, there can be no doubt, that all solid food should be perfectly chewed, and mixed thoroughly with saliva, before it passes to the stomach of the animal —the grain crushed, and fibre of hay and straw broken by the teeth. To insure this we doubt whether forage should be cut shorter than an inch, or an inch and a half. A gentleman who had fed largely with very fine-cut hay, found that much was voided in an undigested state, tinged with blood from the intestines, and that his cattle, after a few weeks, ceased to thrive.

Drainage of Wet Soils.

It may be said with safety that the air is the most healthy source of the water for soil, but this becomes injurious if, when falling in excess, it is not capable of getting away readily, so as to prevent an undue accumulation: in fact, there is every reason to believe that surface-water, which is for the most part stagnant, is by far the most injurious, because in this manner the currents produced during the heat of summer, namely, the period at which vegetation should be most active, will, of necessity, be entirely from below upwards, being produced by the evaporation of the water upon the surface of the soil; and the consequence will be, that the roots of the plants, instead of being supplied with water charged with the valuable gases of the atmosphere, will be glutted with water which has existed so long in the soil that it will have lost these valuable ingredients, and will, moreover, be charged with excrementitious matters. No system of drainage can diminish the quantity of water which a soil *receives*; it can only affect the quantity which it *retains*, and prevent stagnation by allowing it to escape so freely, that continual currents are produced so long as any excess of water remains.

Water affects the various processes in vegetable nutrition which occur above ground, by rendering the atmosphere moist; and by this means we have reason to believe that three distinct injuries will be inflicted, two of which are *functional* and one *organic*. There are two processes of the greatest importance to plants, which take place in the leaves, both of which are effected by the condition of the atmosphere as regards moisture —I refer to *absorption* and *evaporation*. It is well known that the green parts of plants, but more especially the leaves, have the power during day-light to absorb carbonic acid, fix its carbon and emit the oxygen; and it is further known that this process is not only of vital consequence to plants, but likewise from its purifying influence on the atmosphere, is of great importance to the whole animal creation; but this process is greatly interfered with by an excess of moisture, for the absorption of carbonic acid occurs through small pores in the leaf, which are denominated *stomates*; these lead into sub-cuticular cells, in the walls of which the process of assimilation goes on. Now, as soon as these cells become filled with water they close, and it consequently follows that the absorption of carbonic acid must cease whenever this takes place; of course we need scarcely say, that anything which increases the dampness of the atmosphere must increase the frequency of this effect, and hence diminish the absorption of carbonic acid. But these *stomates* have another office to perform, for it is through them that *evaporation* takes place — a process essential to the digestion and elimination of the crude sap; the sap, as received by the roots, is in so diluted a state that it requires to lose two-thirds of its water during digestion before it acquires the proper consistence—all circumstances, therefore, which retard evaporation must, in an equal degree, retard digestion; and this evil will, moreover, be still augmented by the necessarily dilute state in which plants will receive their food, from the excess of water existing in the soil. But plants have the power, in a certain degree, of accommodating themselves to circumstances, and in this manner the *stomates* will diminish in number, for there are always fewer of them in plants growing in marshy places, and thus an *organic* change will be produced upon the leaf; and it is certain that if plants in a healthy state have naturally a great many *stomates*, they will no longer thrive, if, to suit themselves to unnatural circumstances, these pores diminish in number. But it may be asked how it happens that plants should be rendered unhealthy from diminished evaporation when they possess a greater number of stomates than those natural to marshy places? to explain which it is merely necessary to remember that in marsh plants the cuticle or outer covering of the leaf is so thin that evaporation takes place indiscriminately over its whole surface — and hence stomates are not necessary or required; whereas in plants frequenting dry situations the cuticle is thick, to prevent injury from drought, the stomates being chiefly situated on the under surface of the leaf. It follows, therefore, that plants which naturally inhabit dry situations will be injured by a continual excess of moisture in one of two ways—either by diminution of the functions of absorption or evaporation, the structure remaining unaltered; or, from the leaf acquiring an *unnatural* organization, by an effort of nature to overcome the primary source of the soil.

So to the question, how does efficient drainage remove all the bad effects caused by

water, and produce the many good results with which its employment is accompanied? the answer is self-evident.—Drainage effects all its good by affording a ready outlet for all excess of water, by preventing stagnation, and thus removing the source of evil. The bad effects produced by an excess of water—all which are of course removed by draining—are these:

1st. One great evil produced by it is, the consequent diminution in the quantity of air within it; which air we have proved to be of the greatest consequence, not only in promoting the chemical changes requisite for the preparation of the food for plants, but likewise to the roots themselves; for Sassure and Sir H. Davy have proved that oxygen and carbonic acid are absorbed by the roots, which gases, however, especially the former, can be conveyed to them only by the air.

2d. Excess of water injures soil by *diminishing* its temperature in summer and *increasing* it in winter—a transposition of nature most hurtful to perennials, because the vigour of a plant in spring depends greatly upon the lowness of temperature to which it has been subjected during winter (within certain limits of course), as the difference of temperature between winter and spring is the exciting cause of the ascent of the sap.

3d. The presence of a large quantity of water in the soil alters the result of putrefaction, by which some substances are formed which are, in all probability, useless to plants; such, for example, as carburetted hydrogen—and diminishes the proportion of more useful ingredients—as uluric acid.

4th. An increase in the proportion of fluid in soils has a most powerful effect upon its saline constituents, by which many changes are produced diametrically opposite to those that take place in soil where the water is much less in quantity; and in this way the good effects of many valuable constituents are greatly diminished, as, for instance, the action of carbonate of ammonia upon humus, and gypsum upon carbonate of ammonia.

5th. The directions of the currents which occur in wet soils are entirely altered by drainage; for whereas in undrained soil, the currents are altogether from below upwards—being produced by the force of evaporation at the surface—consequently the spongioles of the plants are supplied with exhausted subsoil water; but when land is drained, the currents are from the surface to the drains, and the roots are, consequently, supplied with fresh aerated water.

6th. An excess of water in soil produces a constant dampness of the atmosphere, which has been shown to be injurious to plants:—1. By diminishing evaporation, and thus rendering the process of assimilation slower. 2. By diminishing the absorption of carbonic acid, and thus lessening the atmospheric supply of food. 3. By creating a tendency in the plant to produce leaves possessing a different structure from those which the same plant produces in dry situations.

Thus we have six distinct methods in which an excess of water in soil has been proved to be greatly injurious to the plants cultivated by the farmer; and it hence follows that the adoption of any method capable of affording a certain and ready means of escape for the superabundant moisture, must be accompanied by the most beneficial results. That Drainage has this power, the experience of many years has abundantly testified. Dr. Madden.

On Idleness.

Up and be doing, my friends! up and be doing! Idleness is a sad thing. What! have we feet, and shall we not walk? Have we hands, and shall we not work? We have more to do than we shall ever accomplish if we are *industrious;* how, then, shall we get through it if we are idle? Every bird building her nest, every spider weaving her web, every ant laying up for the winter, is a reproach to an idle man. Up and be doing, I say; and do not expect the pot to boil while you let the fire go out. We must climb the hill to view the prospect; we must sow the seed to reap the harvest; we must crack the nut to get at the kernel. I cannot bear your tattling, talking, interfering, busy-bodies, attending to the affairs of others, and leaving their own duties undone; but yet, it is a sad failing to go to sleep when we ought to be wide awake; to be creeping and crawling like snails, when we ought to be bounding forward like greyhounds. It is a sad thing, I say, and we ought to be ashamed of it. I have known blind men and lame men, who, without an eye to see with, or a foot to stand upon, have done more for the good of their neighbours, than many of us who have the use of all our faculties. Then, up and be doing, and let not the grass grow under your feet! Though the flesh be weak, if the spirit be willing you will not be *happy* in standing still. If you cannot hew wood, you may draw water. If you cannot preach in public, you can pray in private, and be striving to enter in, rather than waiting to be carried through, the strait gate that leadeth unto life. Let us not complain of poverty, with a mine of gold under our feet; let us not die of thirst, with a fountain of living waters within our reach. If we have health and strength, let us work for the bread that perishes; and having the means of grace, let us be diligent to obtain that bread that is eternal.—*Selected.*

For the Farmers' Cabinet.

Agricultural Retrospect.

Mr. Editor,—There are some articles in late numbers of the Cabinet which I turn to with great interest, for from them I have derived much matter for reflection; they are those which go to show the comparative difference between the climate of this country and that of England for the purpose of farming, and I am prepared to consider the preference which is given to the former over the latter, amounting to a *rent*—see the leading article of the number for December last—by no means overrated: indeed, of this I am abundantly convinced by reading a retrospect of the past year in the last number of the Quarterly Journal of Agriculture; and believing that the perusal would be of much service to some of your readers who have it not in their power to judge of the difference by any other mode of comparison, I am induced to copy a few extracts for their comfort and consolation in these times of low markets and cheap prices. The report was written in November last, and proceeds to say:

"The field operations of this year have possessed a very peculiar interest. Spring commenced under the most auspicious circumstances, and high hopes were entertained that a bountiful crop would allay the anxious fears of scarcity arising from a succession of short crops, but these hopes were checked by continued rain during the summer, amid the anticipations of more steady weather in the autumn. Such was the state of the farmer's mind through the year which is now about to close; and although, amidst the greatest vicissitudes of weather, hope springs eternal in his breast, the sad reality has, in this instance, 'froze the genial current of his soul,' and doomed him to disappointment! and we do not remember a season of so tantalizing a character. While the seasons of '16 and '17 presented an unmitigated sternness of aspect —cold and wet alternating day after day— in this, where general warmth of temperature, gleams of sunshine, and balmy winds — elements essential to healthful vegetation, and fostering hopes of a well-filled crop, which might have been realized, had not these kindly elements assumed a change of character which neutralized the good they had done. The crop, however, gradually ripened, and was cut with some satisfaction as to its quantity, but there was no possibility of saving it; the cutting was continued, but the carrying was not attempted, so that at the end of September the whole crop of the country was still abroad in the fields, and little grain was carried for a fortnight after, the warm weather continuing with gentle rains. The consequences were disastrous, for the grain of all kinds sprouted in the straw. The extent of damage in this way cannot be yet ascertained, but the largest portion of the crop was cut and out when the 'muggy' weather hung like a miasm over the face of the whole country. After the 25th of October, however, the weather cleared, which allowed the last of the crop in the late districts to be pretty well secured; but from the nature of the season the wheat cannot be of fine quality, although in good soils the quantity might be pretty fair, still much light grain will be found amongst it. The barley is sprouted and unfit for malting, while the oats will be the most deficient of all the grains, the dry weather in the early part of the season stinting their growth; an evil that can never be remedied. The grain markets are dull, the portion of grain that has been presented is far from fine. There is nothing like an average crop of turnips over the country, nor do those which have attained a pretty fair size *bear the eating* of the last year's crop. The weather was favourable to the taking up the crops of potatoes; since then, however, the frost has been severe, the ice bearing skaters," in November, remember, "and the thermometer ranging as low as 16° on the Tweed, the river being nearly covered with ice! So early a winter is unusual. The experience of this season should act as a stimulus to the farmers of wet and cold soils to drain their lands, for although that operation cannot entirely alter the nature of soils, yet it will, if well executed, so far change their nature and texture as to deprive poor thin clays of their superfluous moisture, and so afford to labour and manure the opportunity of fertilizing it, whilst the climate above it will be rendered innocuous."

Now, after reading this account, one is prepared to ask, what can compensate the anxiety of mind and harassment of body in such a climate? Surely these things alone make a difference of many rents; after which come the advantages of a harvest in July, and the opportunity of obtaining winter-food for cattle by means of second crops, sown after the main crops are harvested—witness the crop of beets, weighing 8 lbs. each, which obtained the premium at the last horticultural exhibition, raised after a ripened crop of peas, and the ruta-baga turnips exhibited at your office, grown after wheat! I tell you, Mr. Editor, there is no comparison between such climates; and the criterion of judging by *rents* holds no longer good, for such facilities and comforts are above all price, and are not to be estimated by dollars and cents. We only require to be more sensible of our advantages, content ourselves with a less quantity of land, plough deeper and more carefully, drain where necessary, subsoil by means of the

plough, compost our manures, dress our grass lands, especially our clovers, sow wheat only on clover-lays, religiously abstain from sowing two grain crops in succession, seed our oats instead of our wheat, plough less and feed more, lay a portion of our land to pasture for five or six years, and top-dress as heavily as possible with compost of all kinds—lime forming a large proportion—and this, let it be remembered, being preparatory to a course of grain crops, when the land shall revert to tillage on laying down that portion of the farm now under the plough, and which grain crops must be debited with a portion of the expense of such dressing—take more care of our cattle if it be only for their dung, husband our resources and return thanks for our blessings, and the American farmer is assuredly the most enviable being in the world.

In conclusion, I must beg your readers to notice the last paragraph of the above extract from the Journal of Agriculture: it contains a volume of sound instruction, particularly the remark that "although draining cannot entirely alter the nature of soils, yet it will afford to labour and manure the opportunity of fertilizing it, *whilst the climate above it will be rendered innocuous.*" VIR.

March 23, 1842.

Management of Swine.

In the first place, *there must be a good piggery.* There is a greater failure in this respect than any other. The swine are too cold in cold weather, and too warm in warm weather. The owners of these animals do not sufficiently consider that they require to be comfortable, in order to thrive and do well. It is a lamentable fact, notwithstanding so much has been said and written on the proper management of swine, that many have hogs that are continually *scolding* and *crying;* not so much on account of being scantily fed, as for the want of a comfortable piggery. I went by one of these miserable pens the other night, where the inmates were whining out something like the following:—

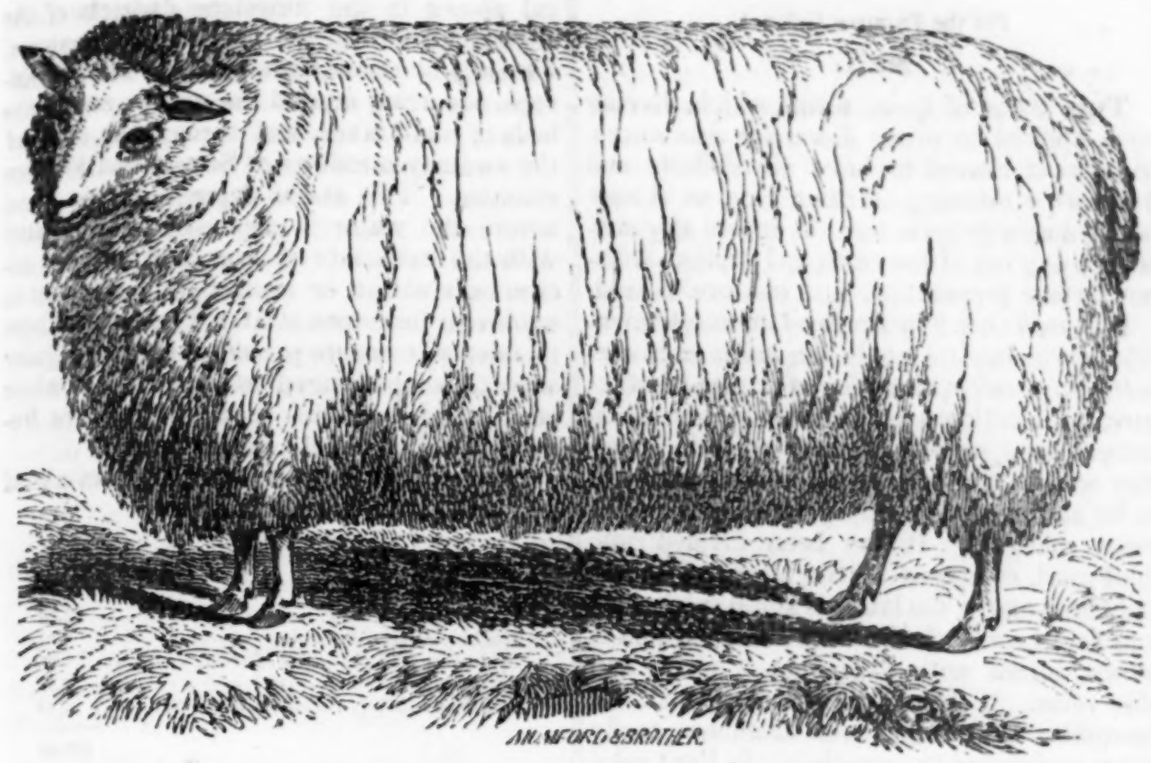
Oh! cruel master, why do ye
Confine us in this piggery?
Oh! here we lie, without a bed,
Dirty and wet, from foot to head;
Boreas comes in, from every crack,
And bites our *ears*, our *legs* and *back:*
Thus we shiver all the night;
We *scold*, we *whine*, and sometimes *bite.*
Hard master! shall it always be,
To have no *better piggery?*

Who can suppose that swine will do well, when so uncomfortable and restless, and nature forces them to whine out such heart-rending complaints? A moment's reflection must convince every one that swine ought to have a dry, comfortable nest. Furthermore, it is highly necessary that it should be so, that they can bask in the sun in cold weather, and have the benefit of the air and shade in the warm. There is no doubt but a third may be saved by good accommodations.

In the second place, *there must be suitable food and good attendance.* Sows that have pigs, ought to have different keeping from what hogs generally have. In order to have their offspring do well, they not only must have meal, but a good supply of milk, or whey. This is soon imparted to their progeny, and, generally, (with good attendance) produces what the owner so much desires. Parturition having taken place, care should be taken for a few days not to over-feed. After which, the sow ought to be fed five times a day, and have about what the appetite craves. In other cases, roots, especially the *potato*, can be used to great advantage. This, I think, is the most natural for swine, and can be raised (all things considered) with the least expense. Not only roots, but meal, ought to be cooked. I very well know that there is some expense about it—but where the accommodations are good, there will be undoubtedly a great gain. Weaned pigs and swine that we are fatting, ought to be fed three times a day, and about such a time. Punctuality in this respect is highly important. Some contend to feed twice per day is as well, or better, than oftener. But against this practice, reason and experience raise a powerful voice. Nature teaches that they require not only a breakfast and supper, but a dinner. The food must be of good quality and dealt out liberally, but not to cloy. Meal should be made of a mixture of grain; it is more palatable, and has a better effect upon the recipients. By feeding swine three times a day, in a proper manner, the stomach may be duly distended, but not so as to produce disease. Whereas, if the food that they have at three times, be given at two, it will so distend the stomach as to have this effect.—*N. E. Far.*

Soap Boiler's or Spent Ashes.

EVERY 110 bushels of the spent ashes of the principal soap boilers, consist of 45 bushels of lime, 45 bushels of barilla, and 35 bushels of wood ashes, so that every 100 bushels contain $40\frac{10}{11}$ bushels of lime; and hence, in part, their great value as an improver of the soil. In the process through which they pass, they necessarily imbibe a large portion of ammonia, and the material for its formation, so that it is a question with us, whether they are not better adapted to agricultural purposes, after, than before the ley is extracted. If such were not the case, it appears evident to us, that the effects of the small quantities usually applied, would not be so lasting as they are.—*Am. Far.*



MAJOR.

Bred and fed by Major Philip Reybold, Delaware.

THE above is a portrait, drawn from the life, of one of the splendid wethers exhibited in Philadelphia, and slaughtered by Schneck & Brothers, on the 3d of March, 1842. He was a perfect specimen of the pure Bakewell; the stock, imported from Ireland, boasting of an alliance with the first flocks in that country, and showing most plainly the *nobility* of his lineage. He was two years old, his live weight being 251 lbs.; weight of carcass, the four quarters, 147 lbs., cutting 4½ inches thick of fat on the ribs, and furnishing a splendid saddle of mutton, weighing 78 lbs., which was purchased by B. Tevis, Esq., and presented to the postmaster-general, Chas. A. Wickliffe, Esq., at Washington, from whence it found its way to the table of the president, where it demanded and received due honour, and the "applause of the senate." Of this superlative breed of sheep, it is said, in Professor Low's work on Domestic Animals:

"The formation of the Bakewell or Leicester breed of sheep may be said to form an era in the economical history of the domestic animals, and may well confer distinction on the individual who had genius to conceive and fortitude to perfect the design. The result was not only the *creation* of a breed by art, but the establishment of principles which are of universal application in the production of animals for human food; it has shown that there are other properties than size, and the kind and abundance of the wool, which render a race of sheep profitable to the breeder; that a disposition to assimilate nourishment readily, and arrive at early maturity, are properties to be essentially regarded; and that these properties have a constant relation to a *given form*, which can be communicated from the parents to their young, and rendered permanent by a mixture of the blood of the animals to which this form has been transmitted; and it was BAKEWELL who carried these principles to their limits. Every breeder of sheep is taught by the result, that an animal of a size to fatten to 40 lb per quarter is more profitable than one that is capable of reaching only 30 lb. in the same time. While Bakewell was compelled to confine himself to his own stock and to the blood of one family—to breed "in and in"—in order to preserve that standard of form which he had produced, modern breeders are relieved from all necessity of this kind; they can obtain individuals of the form required from different families of the same breed, and need never, by a continued adherence to the blood of one family, produce animals too delicate in form, deficient in weight of wool, or in that hardiness of constitution, which are even more necessary than the perfectness of individual form, for the profit of the breeder—an incalculable advantage. Hence, the present breeds of the improved Bakewells are much larger than those which were the result of that great improver's exertions; and in every way has the diffusion of the race added to the value of live-stock in every country: it has even improved its *agriculture* in an eminent degree, by calling forth the necessity for a larger proportion of forage and herbage for the supply of a race of animals whose superiority over all the older races of the long-wooled districts, is attested by the degree in which it has supplanted them, and the eagerness with which it has been everywhere received, having, in little more than twenty years, supplanted other flocks of different breeds throughout entire districts, and given to the long-wooled sheep an uniformity of character, eminently favourable for further improvement, by multiplying animals of a given breed which can be selected for crossing, without the danger of a too close affinity."

For the Farmers' Cabinet.

Marl.

This is one of those terms which, having been applied to many dissimilar substances, has almost ceased to have any definite and distinctive meaning, further than as it may be used as a generic term to denote any substance dug out of the earth and applied, without further preparation, as a manure to land.

It is said that "in England the most scientific agriculturists apply the term marl *correctly* to a *calcareous clay* of a peculiar texture, but most authors, as well as mere cultivators, have used it for any smooth, soapy clay which may or may not have contained, so far as they knew, any proportion of calcareous matter." It has been divided into shell-marl, composed of fragments of shells, and earth-marl; the latter is again subdivided into five sorts: "1. Coroshut marl, which is brown, mixed with fragments of chalk and blue veins. 2. Stone, slate or flag marl. It resembles blue slate, and crumbles easily when exposed to the weather. 3. Pont marl or delving marl; it is brown, and rough to the touch. 4. Clay marl, which contains much clay as its name denotes. 5. Steel marl; its colour is black, its consistence like that of bits of paper." Other writers tell us that the "virtue of all these different kinds of marl is the same, and that they may be all used on the same ground without the smallest difference in their effect; and that marl without any reference to its colour may be known by its *pure and uncompounded* nature. There are many marks to distinguish it by; such as its breaking into little square bits; its falling easily to pieces by the force of a blow, or upon being exposed to the sun and the frost; its feeling fat and oily, and shining when it is dry. *But the most unerring way to judge of marl, and know it from any other substance*, is to break a piece as big as a nutmeg, and when it is quite dry, drop it into a glass of clear water, where, if it be right, it will dissolve and crumble, as it were, to dust in a little time, shooting up sparkles to the surface of the water."

Can any thing be more vague and unsatisfactory than such definitions and descriptions. Yet such is the account of it we find in books. We do not pretend to understand it, and shall therefore not undertake to explain it to others, nor to decide to which of the different substances the term marl most properly applies.

We have several dissimilar substances in this country known under the general term of marl. To a few of these we shall now advert. And first of calcareous marl. This article, under the name of pond marl, is thus noticed by Prof. H. D. Rogers in his report on the Geology of New Jersey. "At several places in the limestone districts of the Kittatting Valley we meet with a material which is identical with the *lake marl* of Europe, occurring around the shores and in the beds of small lakes, and throughout some of the swampy meadows of Sussex and Warren counties. This useful deposite is only found where the water is copiously impregnated with the carbonate of lime, and hence it occurs only within or immediately adjacent to extensive limestone strata. The ponds where this deposite occurs present a rather singular aspect, being fringed with a broad white beach, and from this circumstance are frequently called White Ponds.

Analysis of a fresh-water marl from a pond four miles from Newton:

Description.—Light ash colour; pulverulent.
Composition in 100 parts:

Carbonate of lime,	90.22
Carbonate of magnesia,	1.91
Alumina and peroxide of iron,	0.61
Insoluble matter,	3.13
Organic matter, moisture and loss,	4.13
	100.00

This kind of marl must evidently owe its fertilizing power to carbonate of lime in a very finely divided state. "A material so easy of access, demanding no preparation to suit it for the soil, and unquestionably so efficient when judiciously applied, ought to be extensively used" wherever it can be obtained. "Though much neglected until recently, this useful substance is beginning to attract attention to its valuable properties as a manure. Ample evidence is furnished of its fertilizing agency by experience in Sussex county, even if we had not the testimony of many districts of Europe in its favour."

The next variety we shall notice is the greensand or Jersey marl; and shall again make use of Prof. Rogers's report on the Geology of that state—occasionally condensing his statements, the better to suit our present purpose. This material is known to exist extensively in the lower parts of New Jersey and Delaware, and will probably be found in other states further south.

"The prominent and often the sole ingredient of these marl or greensand beds is a peculiar mineral," to which the name of greensand has been applied, "occurring always in the form of small, dark granules about the size of the grains of gunpowder: their form is roundish and they are often composed of two or three smaller ones united together, a *distinctive feature* by which they may at once be recognized from other dark kinds of sand. The prevailing colour of the grains is a *deep green*, though sometimes the colour is as light as that of the green paint called verditer." "Though the green granular mineral above described constitutes the

essential and distinctive ingredient in the greensand stratum, it rarely exists unassociated with several substances, particularly clay and white siliceous sand. These constitute sometimes as much as 50 per cent. of the bed,—influencing materially its properties as an agricultural agent." The following table exhibits the average composition of seven specimens of the greensand marl, taken from as many different parts of the formation in New Jersey, some of them widely distant from the others: The ingredients were separated by mere mechanical means.

Greensand	75.07
Clay	20.93
Quartzose sand	4.00
	100.00

It must be evident from the above that the Jersey marl must owe its fertilizing powers to the greensand, as it contains no other material of much efficacy. From the results of 15 analyses of the greensand mineral itself, its own composition appears to be of

Silica	49.5
Alumina	7.3
Protoxide of iron	22.8
Potash	11.5
Water	7.9
Lime, about	0.5
Magnesia, a trace.	

"Abundant evidence might be adduced to prove that the true fertilizing principle of this kind of marl is not *lime, but potash*," but we think it unnecessary, as a mere inspection of the above table will fully show that it contains no other ingredient in sufficient quantity which is known or suspected to have any fertilizing powers, particularly on the sandy soils of Jersey; unless an indirect agency, that of neutralizing the acids in the soil, be attributed to the protoxide of iron. In this particular we believe it differs from all other substances known under the general term of marl.

Another kind is the shell-marl, found extensively in the tide-water region of Virginia and some other states. It is made up of small fossil shells, or their fragments, and of clay and sand. The average proportion of carbonate of lime in 107 specimens, taken from nearly as many different localities in Virginia, and analyzed by Prof. William B. Rogers, was 47.4 per cent. nearly.* The shells in this marl exist in all states from the most entire and perfect fossil to a broken and finely comminuted mass, and from a soft powder to a hard concretion, which might properly be termed a tertiary limestone. Its value as a manure frequently depends more on the facility with which the shells fall into very minute particles than on the absolute quantity of the carbonate of lime it may contain. It no doubt owes its fertilizing powers mainly to the carbonate of lime contained in its shells; but some varieties of it contain also a small portion of greensand similar to that of New Jersey, as well as a portion of sulphate of lime, or gypsum, which may aid in its effect. It has produced the most astonishing effects in the tide-water region of Virginia,—working in fact an entire revolution in the appearance and product of many farms where it has been liberally applied.

In the above brief notices the object has been to show the loose and indefinite manner in which the term marl has been applied, both in Europe and this country, in doing which, so far as relates to the latter, that I might not make "confusion worse confounded" by attempting to describe what I knew nothing about, I have confined myself for the present to such substances only as have undergone the investigations of gentlemen eminent for their science and general intelligence, and whose descriptions, therefore, (of which the foregoing is an imperfect abstract,) may be relied on with confidence.

S. Lewis.

*See his Fourth Annual Report of the Geological Survey of Virginia.

Inflammable Gas.

The lightness of inflammable gas is well known: when bladders of any size are filled with it, they rise upwards and float in the air. Now it is a most curious fact, ascertained by Knight, that the fine dust, by means of which plants are impregnated one from another, is composed of very small globules filled with this gas—in a word, of small air-balloons. These globules thus float from the male plant through the air, and striking against plants of the other sex, are detained by a glutinous substance prepared on purpose to stop them, which no sooner moistens the globules than they explode, and their substance remains; the gas, which enabled them to float, flying off. A provision of a very simple kind is also in some cases made to prevent the male and female blossoms of the same plant from uniting; this being found to injure the breed of vegetables just as breeding "in and in" spoils the race of animals. In this case, it is contrived that the dust shall be shed by the male blossom before the female of the same plant is ready to be affected by it; so that the impregnation must be performed by the dust of some other plant, and in this way the breed be crossed. And the levity of the gas with which the globules are filled is most essential to the operation, as it conveys them to great distances—a plantation of yew-trees has been known in this way to impregnate another, several hundred yards distant.—*Brougham.*

For the Farmers' Cabinet.

On saving Liquid Manure.

Mr. Editor,—We hear a great deal about dressing land with nitrate of soda and saltpetre—does it ever occur to our agriculturists, that they possess in the liquid manure of the fold and cattle-yard, these, as well as that other fashionable ingredient, ammonia, in great abundance? all which, however, we witness passing off down the ditches and high roads every rain that falls, without an attempt to put a stop to the ruinous waste; while the owners are toiling perhaps for many miles to the city, to bring back an expensive article in leached ashes—mixed, perhaps, with one-half street-dirt, or burnt horse-dung, white and light, purchased at almost any price! The thing is preposterous, and if a *tradesman* were guilty of anything so perfectly thoughtless and wasteful, his friends would prognosticate his ruin at hand; but agriculture can bear it!

Although I am now in trade, my business lies much abroad; and having once been engaged in husbandry, I can see very clearly, now that I have only to overlook my friends, that some of them go a strange way to work. The last time I called on my old acquaintance, Jacob Solly, I had enough to do to steer clear of a black stream of liquid manure, caused by a couple of days of rain, which I met issuing forth from his cattle-yard on its way to the ditch, which must have robbed his manure-heap of about a tenth of its value; but I could not prevail upon him to sink a cistern to collect it, from whence it might be carried on to his pasture land about his house—no—that was a labour he did not covet, nor did he believe there was much good in it, any how. Now, as I know that he reads the Cabinet, I wish to apply a gentle shove to him on the subject; and if you will give a place to the following extracts from an account of a set of experiments made in England, with the view to test the real value of an article which seems to obtain but little notice in this country, you would oblige me and benefit him, and perhaps many others. The experiments were made by a Mr. Milburn, who says:

"An experiment was made on pasture, soil sandy, subsoil sandy, gravel, and perfectly dry; two-thirds of the field were manured with rotten chaff and horse-manure well rotted, in the month of February; the remaining third being watered with the cistern liquor. The spring appearance of the grass was altogether in favour of the liquid manure, both in the colour, height, and thickness of crop. The field was depastured with cows, who ate up the grass on this part before they touched the other; and it still maintains its preference, is close and even as a lawn, while the other part of the field is quite neglected. From hence it is inferred that some principle has been supplied to the plants by this liquid manure, much more favourable to the development of their characteristic qualities, than on the remainder of the field; animals always choosing such plants as are in the greatest perfection: and there is no doubt, had the grass been cut for hay, a most decided superiority would have been manifested, on the piece dressed with cistern liquor.

The next experiment was made on a meadow, on which the liquid was applied in February; it had fermented, and a black residuum had formed very liberally. A part of the field was manured with a very rich mixture of ashes and night soil; on the remainder, no manure whatever: soil, a cold, grey sand; subsoil, adhesive silt, rather spongy, and not effectually drained. The precise spot where the liquid manure was applied, could be marked to a yard, up to the time of mowing; and the grass was equally good with that manured with the ashes and night-soil—indeed it had so overgrown as to injure the surface of the meadow very considerably.

The last experiment was on a sandy soil, where potatoes and Swedish turnips or Ruta Bagas had been foddered, until the 13th of May—here the grass was eaten very close, and on a light, burning soil, little cut of grass could be expected after that period; but that part which was dressed with the liquid manure from the cistern, soon gave out a rich, luxuriant herbage, and contained three times as much grass as any other part of the field. A friend of the writer spreads the drainage of his yard over a paddock or piece of pasture, which he mows every year for soiling his draught-horses, and finds it gives three times as much grass as any other part of his farm of equal extent, although the soil is a cold, retentive clay.

For very small farms, the writer recommends simply a series of casks to be placed in the ground, well rammed with clay, with a conducting-pipe or drain over the whole; these would form a cistern at a very trifling expense, the advantage resulting therefrom being of incalculable importance. He knows an instance of a small receptacle of this kind, where the owner has but one pig, but by its means, he manages to grow astonishing crops in his garden, his produce being earlier, and far superior to his neighbours."

Now, I presume there can be no objection to the use of soda, saltpetre, ammonia, and many other far-famed and far-fetched articles of manure, but I can see very clearly that many of my friends are indulging in their "propensities" in this way at great expense and labour, while they are neglecting the means and opportunities which lie within their reach, and often under their very noses,

to fabricate a mountain of manure at home, and be doing a service at the same time, in the way of improving their homesteads and increasing their comforts. But I suppose it would be difficult to please one who has an inkling after old pleasures and time on his hands to criticise his neighbours, else I would just intimate that the plan which I see is beginning to be adopted, namely, to plough up a bank or rough fence-row, and carry on it manure from the cattle-yard, all to be turned together to form a compost-heap, might be much improved, by first skim-ploughing the rough surface and burning it; then to spread the ashes and plough as deep as the surface-soil will permit; then harrow and turn up again, by which the ashes will be well mixed; and upon this, place the dung, turning all together as a compost-heap—"a *mountain of labour*," I hear some one exclaim, "and what can ever pay the expense?" I answer, the crops, and let no one hesitate to charge them with it. J. H.

Philad., March 28, 1842.

Pressure of the Atmosphere.

The weight of the atmosphere is near fifteen pounds on every square inch, so that if we could entirely squeeze out the air between our two hands, they would cling together with a force equal to the pressure of double this weight, because the air would press upon both hands; and if we could contrive to suck or squeeze out the air between one hand and the wall, the hand would stick fast to the wall, being pressed on it with the weight of above 200 pounds, near fifteen pounds on every square inch of the hand! Now, by a late most curious discovery of Sir Everard Home, the distinguished anatomist, it is found that this is the very process by which flies and other insects of a similar description are enabled to walk upon perpendicular surfaces, however smooth, as the sides of walls and panes of glass in windows, and to walk as easily along the ceilings of rooms with their bodies downwards and their feet overhead. Their feet, when examined by a microscope, are found to have flat skins or flaps, like the feet of web-footed animals, as ducks and geese; and they have, by means of strong folds, the power of drawing the flap close down upon the glass or wall the fly walks on, and thus squeezing out the air completely, so as to make a vacuum between the foot and the glass or wall. The consequence of this is, that the air presses the foot on the wall with a very considerable force compared to the weight of the fly; for if its feet are to its body in the same proportion as ours are to our bodies, since we could support by a single hand on the ceiling of the room (provided it made a vacuum) more than our whole weight, namely, a weight of over 200 pounds, the fly can easily move on four feet in the same manner by help of the vacuum made under its feet. And it has likewise been found that some of the larger sea animals are, by the same construction, enabled to climb the perpendicular and smooth surfaces of the ice hills among which they live. Some kinds of lizards have the same power of climbing and of creeping with their bodies downward along the ceiling of a room, and the means by which they are enabled to do so, are the same. And in the large feet of those animals the contrivance is easily observed, of the toes and muscles by which the skin of the foot is pinned down and the air excluded in the act of walking or climbing; but it is the very same, only upon a larger scale, with the mechanism of a fly's or a butterfly's foot; and both operations, the climbing of the sea-horse on the ice, and the creeping of the fly on the window or the ceiling, are performed exactly by the same power, *the weight of the atmosphere*, which causes the quicksilver to stand in the weather-glass, the wind to whistle through a key-hole, and the piston to descend in an old steam-engine! — *Brougham.*

Duke of Athol.

The estate of the present Duke of Athol, "is immense, running in one direction more than seventy miles. On his estate there are thirty-six miles of private road for a carriage, and more than sixty miles of well-made walks, which are being extended every year. These roads and paths being made for pleasure, are laid through the most picturesque and romantic scenery; along the river's bank, up the glen, cut in the steep sides of the mountains and over their tops, and along the margin of the precipitous cliffs — now into the forest gloom—now opening on a boundless prospect, or some sweet vale — now bursting on a waterfall, and next along the side of a murmuring brook. The father of the present duke began in his lifetime one of the most magnificent palaces in the kingdom. It is said that in the estimate of the cost of the edifice, the single item of raising the walls and putting on the roof, together with the materials, would have been one hundred thousand pounds, about five hundred thousand dollars."

Do you envy the possessor of all this wealth?

For more than thirty years he has been in a lunatic asylum of London.

Agriculture, like the leader of Israel, strikes the rock — the waters flow, and the famished people are satisfied — she supplies, she feeds, she quickens all.

For the Farmers' Cabinet.

Yellow Beet.

Mr. Editor,—After all that has been said and written on the subject, I believe it will be confessed, even by the friends of the sugar-beet culture for the purpose of cattle feed, that that crop has not uniformly proved of the value and importance which was once considered to be its due; it therefore behooves its advocates to examine into the real state of the case, and endeavour to point out the cause of such contradictory statements; for that there is a very wide difference of opinion on the cost and trouble of the culture, as well as the expenditure of the root after it is grown, cannot be denied. And I would farther hint, that as you, Mr. Editor, were instrumental in the introduction of the crop amongst us, it is but reasonable that you should feel much interest in the question. I have sometimes thought it probable that the Silesian or white beet may not be the best for cattle, whatever might be its pretensions for the purpose of making sugar; for I well remember that the seed which was first introduced from France by the Beet-Sugar Society, embraced a yellow variety, which, according to every account, was of peculiar value to the farmer, the roots growing large and globular, of fine flavour, and remaining succulent through the whole winter, and even until very late in the summer, without a particle of that ill flavour which is now so often complained of, and the diuretic effects of which were so vividly pourtrayed by B in his very interesting account of his last year's trial and exercises in the propagation of that *root of vexation*, at page 59 of the Cabinet for September last. This yellow beet was largely expended for family use during the winter, with a decided preference to the garden beet; and I have therefore been ever since endeavouring to meet with seed of the same sort, but without effect, although I addressed a note to you on the subject, which appeared in the 4th vol. of the Cabinet, p. 285.

These things considered, I thought I would inquire what are now your opinions as to the real value of the beet crop as food for stock, and whether it be not quite probable that the distinction pointed out above has some foundation in truth. It is true, there are still many who adhere to the culture of the sugar-beet; but it is also a fact, that many have abandoned it in despair, and are now contemplating the growth of the potatoe for feeding stock, now that you have shown them the case with which they might be cooked by the ingenious contrivance exhibited at p. 217 of the Cabinet for February last, and which will no doubt be adopted by many on a large scale. And with this view, I would also ask which, in your opinion, is the best kind of potatoe for stock-feeding? I know that many prefer the Rohan on account of its productiveness; at the same time it is, I believe, admitted that the quality is inferior. I have a neighbour who prefers the yellow-fleshed potatoe, considering the yellow colour of roots indicative of richness — the yellow turnips, the Scotch and ruta-baga, the purple-top variety especially, the parsnep, the beet above-mentioned, as also the potatoe of that colour. And could we but realize one half the crop that General Barnum is said to have raised per acre, the potatoe would cause the beet, as well as all other crops, to "hide their diminished heads." By the bye, Mr. Editor, how are we to receive that account of the General's "tater patch" — is it to be *cum granum salis*? I wish you could give us his mode of cultivation; it would be exceedingly interesting to us 250-*bushel-men*. W. R.

We well remember the very general satisfaction which the seed of the yellow variety of beet, sent from France on the first importation, gave to the agriculturists of this country, and many have since regretted that it could no longer be obtained; the crop being quite as large as that raised from the Silesian variety, while the quality is infinitely superior in the estimation of many who have since abandoned the culture on account of the bad flavour which they communicate to the butter in the spring—a time when their use is most needed: and we are free to confess, that although the Silesian beet has been uniformly preferred for the purpose of making sugar, in all probability the yellow variety will be found of greater utility in the feeding of stock, its saccharine matter being by many considered equal to that of the Silesian, although not so easily extracted, and granulating with more difficulty in the manufacture of sugar; retaining its juices later in the spring, without exhibiting that tendency to fermentation peculiar to the Silesian — its saccharine quality appearing to consist rather of *molasses* than *sugar*. Much, however, of the difference of opinion on the subject arises, it is considered, from a mistake in the proper season for its cultivation; for with those who have sown the seed of the Silesian beet after the growth of a spring crop of peas, they have been found to retain their good qualities till late in the season, and productive of the best results. The supposition seems to be well grounded, that the climate of many portions of this country, as well as the nature of the soil, are too hot and dry for the full developement of the Silesian beet, bringing on a too early maturity, with acidity of its juices—just as we witness some fruits, the gooseberry, raspberry, currant and strawberry, which are grown to much greater perfection in the colder and more humid climate of England: indeed, the cultivation of the beet for sugar is confined to the low country of France—the northern part—the more southern having been found inimical to its proper developement; but it is believed the yellow globe beet can be raised here with perfect success; and we take the opportunity to say, the seed of that variety, packed in parcels of 1 lb. each, bearing the signature of the French importer, may be

had at Prouty's seed and implement store, 176 Market street, Philadelphia.

There is reason to believe that the cooking of food for stock, by the apparatus mentioned by our correspondent, will become pretty general, and then the potatoe will come into use for that purpose. A yellow variety of that root has been exhibited at our office during the winter, and appears peculiarly well adapted; it is round and rather flat, remarkably vigorous in its growth, continuing green until autumn, and keeping its quality late in the spring. The seed may be obtained of Mr. Philip Reybold, of Delaware city, at the market price of other kinds of good quality. There is also the long red, very famous, and of excellent yield under common treatment; but we fear that our friends must not expect to rival our Eastern neighbours in the growth of this invaluable crop, although much, very much may be done by the use of the subsoil plough, which for this purpose, as well as many others, is destined to become indispensable, certainly. A week's trial with this noble implement, in connexion with the sod C, centre draught plough of Prouty & Mears' patent, has convinced us that nothing more is left to be desired in the construction of these ploughs, whether it be in the cultivation of the soil, or the ease and facility with which their operations are conducted; the subsoil plough by the aid of a pair of small horses stirring the earth to the depth of 8 or 10 inches in the most effectual manner—the soil being a reddish-brick clay—and leaving it in the finest state of pulverization that can be imagined. By the faithful use of these ploughs, the quantity and quality of all our crops must be greatly increased, and the extra labour compensated by a rich return — the only consideration with any one of intelligence and industry in his profession.

General Barnum's peculiar mode of cultivation of the potatoe is as follows; it is extracted from the "New England Farmer;" but it will be perceived at a glance that its adoption on a very large scale is not feasible. — Ed.

From Mr. Barnum's statement.

"*Preparation for Planting.* — What soil may be selected for this purpose to insure a large crop, should be highly manured with compost, decomposed vegetables, or barn-yard manure.

"The first should be deep ploughing, and may be done as early as suits the convenience of the cultivator. If a stiff clay soil, it would be well to have it ploughed late in the fall previous to planting. Where compost or other substances not liable to fermentation, are intended as a manure, it is better the spreading should be omitted until just before the last ploughing, after which it should be thoroughly harrowed, fine and smooth as possible; then take a narrow furrow; with this instrument lay your land in drills, twenty inches asunder and four inches in depth, running north and south, if practicable, to admit the rays of the sun to strike the plant equally on both sides; put into the bottom of the furrows or drills about two inches of well rotted barn-yard manure or its equivalent, then drop your potatoes, if of the common size, or what is more important, that they contain about the usual quantity of eyes; if more, they should be cut, to prevent too many stalks shooting up together. Put a single potatoe in the drills or trenches, ten inches apart; the first should remain uncovered until the second one is deposited. Place them diagonally in the drills, which will afford more space between the potatoes one way, than if laid at right angles in the rows. The covering may be performed with a hoe, first hauling in the furrow raised on each side the drill, then carefully take from the centre of the space the soil to finish the covering to the depth of 3½ or 4 inches. By taking the earth from the centre of the space on either side to the width of 3 inches, it will leave a drain of 6 inches in the centre of the space, and a hill of 14 inches in width, gently descending from the drill to the drain; the width and depth of the drill will be sufficient to protect the plant against any injurious effects of a scorching sun or drenching rain. The drains in the centre will at all times be found sufficient to admit the surplus water to pass off. I am not at all tenacious about the instrument to be made use of for opening the trenches to receive the manure and potatoes; this work should be well done, and may be performed with the common hoe, with much uniformity and accuracy, by stretching a line to direct the operation: it is true that the labour cannot be performed with the same facility as with a horse, but it can be better done, and I think at less expense, taking into consideration the labour of the man to hold, the boy to ride, and the horse to draw the machine.

"*Dressing, Hoeing, &c.*—When the plant makes its appearance above the surface, the following mixture may be used:— For each acre, take one bushel of *plaster* and two bushels good *ashes*, and sow it broadcast as even as possible. A moist day is preferable for this operation—for want of it, a still evening will do.

"I consider this mixture decidedly more beneficial and much safer than plaster or ashes alone. The alkali and nitre contained in the ashes lose none of their fertilizing qualities in a moist season, and the invaluable properties of the *plaster* are fully developed in a dry one, by decomposing the atmosphere and retaining to a much later period in the morning the moisture of the evening dews. There are but few plants in our country that receive so great a share of their nourishment from the atmosphere as the potatoe. The time for dressing or hoeing will be found difficult to describe, and must be left to the judgment of the cultivator; it should, however, in all climates be done as early as the first buds for blossoms make their appearance.

"The operation of hilling should be performed once, and *once only* during the sea-

son; if repeated after the potatoe is formed, it will cause young shoots to spring up, which retards the growth of the potatoe and diminishes its size. If weeds spring up at any time, they should be kept down by the hand or hoe, which can be done without disturbing the growing stalk.

"My manner of *hoeing* or *hilling*, is not to haul in the earth from the spaces between the hills or rows, but to bring on fresh earth sufficient to raise the hill around the plant 1½ or 2 inches. In a wet season the lesser quantity will not be sufficient; in a dry one, the larger quantity will not be found too much. The substance for this purpose may consist of the scrapings of ditches or filthy streets, the earth from a barn-yard that requires levelling; where convenient, it may be taken from swamps, marshes, the beds and banks of rivers, or small sluggish streams at low water. If planted on a clay soil, fresh loam taken at any depth from the surface, even if it partakes largely of fine sand, will be found an excellent top-dressing. If planted on a loamy soil, the earth taken from clay pits, clay or slaty soil, will answer a valuable purpose. In fact, there are but few farms in the country but what may be furnished with some suitable substance for top-dressing if sought for. The hoeing and hilling may be performed with facility by the aid of a horse and cart, the horse travelling in the centre of a space between the drills, the cart-wheels occupying the two adjoining ones, thereby avoiding any disturbance or injury to the growing plants. The time for collecting the top-dressing may be regulated by the farmer's own convenience; the earlier the better. Deposited in large piles in or near the potatoe field, is the most suitable place for distribution."

Stables.

Nothing conduces more to the health of a horse than a good and wholesome stable. It should be built upon a high, airy, and firm situation, that the horse, in bad weather, may come in and go out clean. No animal delights more in cleanliness than the horse, or to whom bad smells are more disagreeable and pernicious. Great attention should be paid to the removal of all offensive and putrid matter, to prevent the farcy and other troublesome and distressing diseases, which frequently proceed from such neglect. A log stable is preferable to any other, on account of its admitting a free circulation of air in summer; and by the use of slabs or straw in winter, can be made warm and comfortable. Opposite to each stall there should be a lattice or window, with a shutter; by which means you can, at pleasure, either welcome the cheering breeze, or bar out the threatening storm. The rack should be smooth, high, and firmly fastened to the wall, which will prevent a horse injuring his eyes, skinning his face, and doing himself other injury when feeding. The upright pieces in a rack should be four, or four and a half inches apart, to prevent long food from being unnecessarily wasted. The halter should never be tied to the rack, (several fine horses having been ruined by such carelessness,) but should be fastened to a ring in the manger, and confined by a log or smooth piece of wood, weighing about a pound. With a halter of this description, there is no danger of a horse's hanging, alarming, or injuring himself. A stall should be four and a half or five feet wide, which will allow him to lie down with comfort. The stable floor should be planked, to make the coat of hair show to advantage, but a dirt floor is far preferable, when a horse is wanted for service; there is a moisture received by the hoof from the earth, which is absolutely necessary to make it tough and serviceable. Either kind of stable floors should be a little raised towards the manger, to turn the urine from the stall, which produces an unpleasant smell, and (when permitted to stand a length of time) very unwholesome vapours. When the size of the stable is calculated for several horses, the partitions between the stalls should be neatly and smoothly planked, low enough to the floor to prevent the horse, when lying down, from getting his legs through, and high enough at top to prevent them from smelling, biting, and molesting each other. A plentiful bed of clean, dry straw, affords to a fatigued or travelling horse, as great a welcome as his food, and is as necessary in the stable as the pitch-fork, curry-comb, and brush.—*Mason's Farrier.*

From the Colonial Farmer.

The Farmer's Song.

In sweet healthy air with a farm of his own,
Secluded from tumult and strife,
The farmer, more blest than the king on his throne,
Enjoys all the comforts of life.

When the sweet smiling spring sheds its perfume around,
And music enchants every tree,
With his glittering ploughshare he furrows his ground,
With mind independent and free.

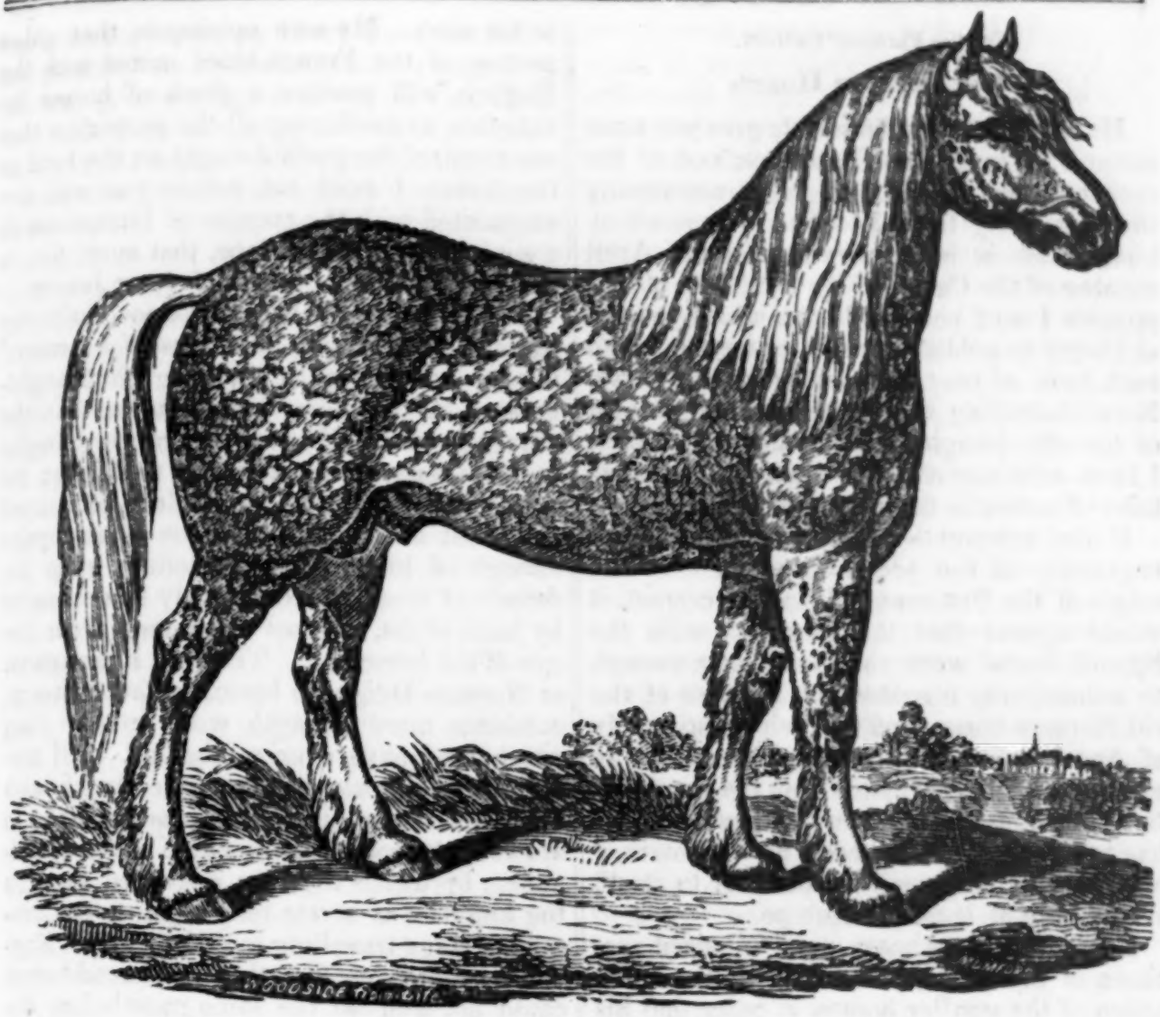
When Summer to fruit the sweet blossoms transforms,
And his harvest fields wave with the breeze,
Sweet anticipation unfolds all her charms,
And points to contentment and ease.

When bountiful autumn her treasure bestows,
And her fruits are all gathered and stored;
His heart to the Giver with gratitude glows,
And plenty presides at his board.

When Winter howls dismally over the earth,
And want tells her tale at his door,
Serenely he sits by his clean blazing hearth,
And dispenses relief to the poor.

Then let idle ambition her baubles pursue,
While wisdom looks down with disdain;
The home of the farmer hath charms ever new,
Where health, peace, and competence reign.

A. W.



DILIGENCE.

The property of Edward Harris, Esq., Moorestown, New Jersey.

This splendid portrait, drawn from the life by Woodside, and engraved by Mumford, is a faithful representation of one of the most perfect animals of that distinguished breed of Normandy horses, the Percheron. He was imported into this country by his present owner, and retains all the life and vigour which distinguish that peculiar race of horses in their native country, although so different in soil and climate; Normandy partaking, in a great degree, of the climate of England, moist and cool, in contradistinction to the heat and dryness of that of New Jersey; the change, however, appearing to have no influence whatever upon his constitution of iron.

Diligence is of a handsome dapple-grey colour, and measures 15 hands under the standard; he was purchased by his present owner in 1839, at the Fair of Guibray, a small village near Falaise, in Normandy, the birth-place of William the Conqueror. This fair lasts 15 days, and being held in a district the most celebrated in France for the breeding of horses, and the first three days of the fair being devoted to their sale, it is resorted to by dealers from all parts of the country, particularly from Paris, for the supply of the diligences, and for post and carriage-horses. This fair is largely supplied with the English breed raised in Normandy, and with its crosses upon the French stock, as well as with this peculiar race (of which Diligence is a true type) called the Percheron, so universally used in the northern half of France, to draw the diligences and for post-horses.

The origin of this race, according to French authorities, dates from the occupation of the Netherlands by the Spaniards, who introduced the Andalusian horse, which soon became the favourite stud horse all over the continent. The Spanish horse is known to spring from the Barb or Arabian, introduced by the Moors, on their conquest of that country. All who are conversant with the history of the horse, know that the Andalusian has always been celebrated for his beauty, and for his great spirit, combined with extraordinary powers of endurance. The French horse, upon which he was crossed, was the old Norman draught-horse, which still exists in the country in all its purity, and is, perhaps, the best of all horses for slow draught.

The average height of these horses is 16 hands, and they may be described as follows: head, short, wide, and hollow between the eyes; jaws, heavy; ears small and pointed well forwards; neck, very short and thick; mane, heavy: shoulder, well inclined backwards; back, extremely short; rump, steep; quarters, very broad; chest, deep and wide; legs, very short, particularly from the knee and hock to the fetlock, and thence to the coronet, which is covered with long hair, hiding half the hoof; much hair on the legs; tendons, large; and muscles excessively developed.

For the Farmers' Cabinet.

The Norman Horse.

Mr. Editor,—I promised to give you some account of my horse Diligence, and of the race from which he springs, to accompany the engraving from Woodside's portrait of him, which is in preparation for the April number of the Cabinet. In fulfilment of that promise I send you this letter, which you are at liberty to publish as it is, or mould it into such form as may best suit your own views. Notwithstanding the great size and weight of the old draught horses, they are active. I have seen one of them draw sixteen large bales of cotton in the streets of Havre.

If the account—which accompanies the engraving in the present number—of the origin of the Percheron horse be correct, it would appear that the crossings with the Spanish horse were continued long enough to reduce, very considerably, the size of the old Norman horse; and that when the supply of Andalusian stud horses was cut off by the expulsion of the Spaniards from the low countries, breeding their progeny with one another has produced a distinct race, as well marked by character and qualities peculiar to itself, as any race of horses in Europe.

Diligence was chosen as a full-sized specimen of the breed, possessing all the quick action of the smaller horses, in order that his immediate progeny from our light mares might approach nearer the true type of the race. It must be observed, however, that it is more in breadth and size of bone and muscle that he exceeds the standard, than in his height, which is very little above the average. The portrait, or still better, an inspection of the horse, will convince any one that this race is the origin of the Canadian pony, about whose valuable properties little need be said, as they are well known and highly prized in this section of the country, and still more to the north, where they have, undoubtedly, given that stamina and character to the horses of Vermont, New Hampshire, and the northern section of New York, which makes them so highly valued all over the Union as road horses; while it is a remarkable fact, that in those states where the attention of breeders has been exclusively devoted to the English race-horse, the carriage and the stage-horse is almost universally supplied from the north. It remains, therefore, for breeders to determine, whether it is not better to resort to the full-sized Percheron to cross upon our light and already too highly bred mares, than to use the degenerated Canadian, (degenerate in size only, through the rigour of the climate—for it must be admitted that the little animal retains all the spirit and nerve of his ancestors, and lacks strength only in proportion to his size). My own opinion is, that a due portion of the French blood mixed with the English, will produce a stock of horses invaluable, as combining all the properties that are required for quick draught on the road or the farm. I need not assure you who are acquainted with the success of Diligence as a stud horse in this place, that such, too, is the opinion of the farmers of New Jersey.

I have frequently been questioned as to my reasons for selecting this horse for farmers' use in preference to the English draught-horse. My reply has always been, that the draught-horse of England, whenever brought to this country, must prove a failure; he wants the go-a-head principle; he cannot move out of a walk; which is saying quite enough of him, without dwelling upon his defects of form, which can only be concealed by loads of fat, and not even then, from the eye of the horseman. The true Percheron, or Norman Diligence horse, on the contrary, combines more strength with activity than any horse I have ever sat behind. All travellers, on entering France, are struck with the properties of these horses as displayed in drawing the ponderous machine called a Diligence, by which they are conveyed through the kingdom at a rate fully equal to the average of stage travelling in this country. English horsemen confess that their road-horses could not hold out the same pace before the same load. But I will close this letter with an extract or two from an able article on the Norman Horse, in the British Quarterly Journal of Agriculture.

The writer, after giving an account of the origin of the horse, which agrees in tracing it to the Spanish horse (of Arabian ancestry) with the account I have given above, which I procured from French sources, says: "The horses of Normandy are a capital race for *hard work and scanty fare.* I have never seen such horses at the collar, under the diligence, the post-carriage, the cumbrous and heavy voiture or cabriolet for one or two horses, or the farm-cart. They are *enduring and energetic beyond description;* with their necks cut to the bone, they flinch not; they put forth all their efforts at the voice of the brutal driver, or at the dreaded sound of his never-ceasing whip; *they keep their condition when other horses would die of neglect and hard treatment.* A better cross for some of our horses cannot be imagined than those of Normandy, provided they have not the ordinary failing, of too much length from the hock downwards and a heavy head." I think that all who have paid attention to this particular breed of Norman horses (the Percheron which stands A No. 1), will bear me out in the assertion that the latter part of this quotation will not apply to them, and that on

the contrary they are short from the hock downwards; that their heads are short, with the true Arabian face, and not thicker than they should be to correspond with the stoutness of their bodies. At all events, you can witness that DILIGENCE has not these failings, which, when absent, an Englishman (evidently, from his article, a good horseman) thinks, constitutes the Norman horse "the best imaginable horse for a cross upon English horses, of a certain description." This, coming from such a quarter, I look upon as high praise—a golden opinion. I would here observe, that I have seen great numbers of the cross upon the Norman mare by the English thorough-bred, and feel satisfied that they are of superior form and action for road-horses, and that many of them in the hands of our trainers would make fast trotters. Again, he says they are "very gentle and docile; a kicking or vicious horse is almost unknown there; any person may pass in security at a fair at the heels of hundreds."

As I do not feel myself at liberty to bore you or your readers any longer with my *hobby*, I will conclude with the assurance, that it will give me great pleasure to show my horses, mares and colts, of this breed, to any of your friends, particularly those who are desirous of importing the stock, and to give them all the information I am possessed of, in regard to the best means of procuring them.

I remain yours, very sincerely,

EDWARD HARRIS.

Moorestown, Burlington co., N. J.,
March 30, 1842.

For the Farmers' Cabinet.

Birds.

MR. EDITOR,—As the season has again arrived when the feathered tribes begin to make their appearance amongst us, I wish to say a few words on a subject that has received the attention of far abler pens than mine; but a wish to cast my mite into the common treasury on the score of humanity, has induced me also to put pen to paper. We all know that from the time when these little harmless friends of the farmer first arrive in the spring, until the day of their departure in the autumn, they are made the subjects of an unceasing, bitter persecution, merely for the sport and fun of the most worthless part of society! These valuable servants of the farmer, who work for him day after day, and receive nothing for their labour, securing his fruit and crops from destruction, are killed off just for sport; and a reckless spirit of destruction is engendered, which, in the young, is often the fruitful source of crime and punishment in after life. Now, I hold it wrong to take away the life of any of God's creatures for fun or pastime—much more, those that are of such service to man. Nothing was made in vain; every living thing, from the ephemeral insect up to man, was made for some use: true, there are some of our birds—the crow, the hawk, and the black-bird—that are supposed to do considerable injury at certain seasons of the year, yet it may be fairly presumed that the good they do far overbalances the injury; for observe the immense number of worms and bugs of every description that are destroyed by the black-birds through the summer. It is also true, that they will help themselves to a little corn at harvest, but how infinitely small is the quantity they destroy, when compared with that which is destroyed by the cut-worm! But, those birds which are of the greatest *use* to the farmer, are they which suffer the most, namely, the robin, the blue-bird, and the tom-tit; and so fast as their numbers decrease, in the same proportion do the tribes of hurtful insects increase; and should this destructive spirit continue for a few years longer, it will be difficult for the farmer to raise any crops at all. Let therefore the farmers rise up as one man, and stop the wanton destruction of the inoffensive creatures: let them teach their children the insanity and cruelty of the practice, and let the public teachers of schools inculcate the blessed doctrines of humanity to brutes and kindness to everything that has life; especially to abstain from destroying birds and robbing their nests. But more particularly, let every farmer do his utmost to keep from off his property those miscreants whose sole business seems to be to prowl about the country with the gun, and waste their time in the unprofitable employment of destroying the lives of animals that, after all the labour, are not worth a tenth part of the cost of powder and shot; and this they will do in their own defence, when they see the importance of the subject, and experience the loss which is yearly accruing from the destruction of these their most valued friends, and witness the injury done to their fences, fruit trees, and crops in general, by the trespass of a company of freebooters, who are generally the off-scouring of society. Let then our farmers look to it, before it be too late.

Please inform me where I can obtain the book entitled Frank, or Dialogues between a Father and Son, on agriculture, &c., and what is the price of it? I am, your subscriber,

E. BIERER, Jr.

Union Town, Fayette co., Pa.

We would inform our correspondent, that the book which he inquires after may be had of the proprietors of the Cabinet, Messrs. Kimber & Sharpless, No. 50, N. 4th street—price 75 cents; where also may be obtained every other agricultural publication of standard merit.—ED.

For the Farmers' Cabinet.

Bakewell Sheep.

Mr. Editor.—By the hand of Mr. Aaron Clement, I present you with a piece of my Bakewell mutton; also, the live and dead weight of my thirteen sheep, advertised in the Ledger of the 22d March, slaughtered and sold in the Washington Market, Philadelphia, on the 26th.—Should you think them worthy notice, you will please publish them in your useful "Cabinet."

Live weight.		Dead weight.	
231	lbs.	133½	lbs.
188	"	104½	"
198	"	107½	"
195	"	88	"
181	"	81½	"
162	"	100	"
176	"	85½	"
177	"	98	"
183	"	111	"
181	"	94½	"
154	"	84	"
156	"	100½	"
153	"	103½	"
2335		1298	

The enterprising purchasers, Messrs. Henry Schaffer and John Youcker, realized all which was stated in the Ledger of the 22d instant. The mutton when on the stalls was decidedly the fattest ever offered for sale in this market, although not as heavy in the carcase as others of a larger breed. The full-blooded Bakewells cannot be excelled for their delicious flavour and taste to the epicure, and appearance of beautiful meat. These sheep were allowed to excel all others for colour and handsome appearance; they were of the pure breed, (one or two excepted,) and were *raised and fed* on my farm, New Castle county, state of Delaware.

A word in season to the stock-breeder may not be amiss on this occasion. My judgment, with many years' experience, corresponds with that of my worthy friend, Gen. Emory, See Cabinet, vol. vi., p. 236:—"Keep your breeds entirely distinct, both cattle, sheep, &c.—Bring in your crosses from distant families of the same race, and do not give them *even one cross* of another breed, unless you have a definite object—some specific point of form or quality which you wish to correct or improve, and then, you must be sure that you do not introduce at the same time another defective point, and pursue the object with undeviating steadiness, &c." — My sheep's ages were from one, to two, and four years, the two year old nearly equalled in weight and quality of meat those of four years old.

It is well known that the great Bakewell's object and aim was to raise a breed of sheep which should come to perfection in the shortest given time; this might well be termed time and money saved, and this is the superior quality of the true-bred Bakewell sheep. By referring to the weight of Mr. Bakewell's sheep in his day, we find they averaged from 22 to 30 lbs. per quarter at the age of two years; this has frequently been accomplished by myself within the last thirty years, during which I have been paying strict attention to this valuable race of sheep; my object is still to keep them as pure in the blood as possible, being fully convinced there is no advantage to be derived from crossing with other breeds.

John Barney.

Port Penn, New Castle county, Del., March 28, 1842.

We are indebted to Mr. Barney for the remarkably fine cut of very fat mutton—we presume from No. 1 of the list of his thirteen sheep of the Bakewell breed, than which a finer race cannot be found. "Little Delaware" takes the lead in fat sheep, and is destined to become *great*, in the best acceptation of the term.—The mutton is to be seen at our office, in *company* with the specimen from Major Reybold's "Clayton," whose portrait will appear in our pages for May. And there also will be found a sample of the very finest improved Mercer potatoes, a present from Mr. Jacob Shalcross, which go to show what might be accomplished by an union of ability and perseverance.—Ed.

For the Farmers' Cabinet.

The Centre-Draught and Subsoil Ploughs.

Mr. Editor.—Happening on a visit to a friend at New Castle, I accompanied him to Delaware City, on Tuesday last, where, at the post-office, I saw a notice that on the afternoon of that day there would be an exhibition of the Prouty Centre-Draught Plough, accompanied by the Subsoiler, at the farm of Mr. P. Reybold, St. George's; and never having witnessed the performance of either, my friend and I determined to be present on that interesting occasion. In spite, therefore, of the weather, which was so bad as to prevent many from being present, I found some first-rate ploughmen on the ground, and saw what I shall never forget—the working of the most perfect implements that I ever expect to see, although the pleasure of meeting you there was denied me, you having just left the scene of operations. My friend was so struck with the working of these remarkable ploughs, that he has ever since been urging me to say something about it for publication in the Cabinet, considering it worthy record; and as the scene is still fresh in my recollection, I have complied, in the hope that those who were absent might become acquainted with a few particulars relating to a trial at which they might well wish they had been present. By the way, Mr. Editor, that is a capital plan of yours—to visit parts of the country for the purpose of exhibiting improved agricultural machinery—it is legitimate with your editorial duties, bringing you into contact with practical men on the field of their labours, and joining them heart and hand in a business which,

in an especial manner, *comes home to their bosoms;* furnishing them and yourself with much original matter for farther discussion, uniting all in the bonds of friendship, and at the same time doing much for the success of the "Cabinet," which requires only to be better known to be properly appreciated—but to the purpose.

I found the ploughs at work on a piece of clover-lay that had been thickly covered with manure from the barn-yard, for the purpose of ascertaining whether both could be covered by the centre-draught plough, so effectually as to leave nothing in sight, as had been represented to be the fact, by those who had seen its powers; and here we were witnesses of *the fact*, for after the plough had passed, not a particle of either dung or turf was to be seen, and no one would have known but the field had been a fallow! The plough follow[illegible] the horses surprisingly easy, which is, I understand, its peculiar quality, but I could perceive that much of its ease of draught, under circumstances where other ploughs would have "risen up and walked off," as some one says, arose from the use of a small wheel—the first I had ever seen attached to a plough—fixed near the end of the beam; the pressure which fell upon it, keeping the plough in its place, even when choked with the long, rolling dung. And this was not the only good effect, for it was as great a cause of ease to the ploughman as to the horses, which stepped off with ease and confidence, being relieved from the checks and snatches which so often take place, by reason of the swing plough sinking occasionally too deep in the soil.

But to the *principle, which has been patented*, is this plough indebted for its great superiority; for, leaning as it does, very much towards the *furrow* whilst going, it is made to undermine the *land side*, taking up a portion of the next furrow in a state of pulverized soil without turf, and throwing it over; causing it to fall exactly in the interstice between that and the last-turned furrow—that particular spot which, with all other ploughs, constitutes *the seam*, from whence the grass turned over, is seen to spring with redoubled vigour, showing very distinctly, long rows of vegetation, from one end of the field to the other. By this undermining operation, a portion of the turf is left attached to the soil, to be turned over with the next furrow-slice to the *bottom of the furrow;* and it is owing to this peculiarity of construction, that the centre-draught plough has taken the premium for the lightest draught, in every trial to which it has been submitted, by the only criterion by which to form a judgment, namely, the dynamometer; and it is plain to see that this must be so, for the next furrow, undermined and deprived of its support by the cutting away of its lower or *aris edge*, as it might be termed, must, in the nature of things, turn easier and more completely, than if all had remained square and unremoved. But there are other peculiarities still to be noticed; for the plough is longer in the ground than any I had ever before seen, which is the cause of its steadiness, so remarkable in going; this great length might have been in a degree objectionable, had that not been obviated by the proportionate greater length of the handles and beam, which are so mathematically adjusted, that the body of the plough forming a *fulcrum*, the ploughman has the power to poise the machine with the ease of a well-adjusted pair of scales; the weight of a few ounces being sufficient to raise or lower the beam or handles, with the utmost precision.

The construction of the point and share is a new invention, and seems to be about the most perfect that can be devised. In the common cast-iron plough, as soon as the point is worn away from the land-side, it is useless, and requires to be replaced by a new one; but here, the point is moveable, and consists of a chisel; the wearing away from the land-side only sharpening it to a narrower point, which can be turned in an instant; and when that also is worn away, then the other end, which forms another chisel, can be brought into operation exactly in the same way; the wing of the share also, admitting of turning; so that every plough has four points and two shares; and as with every new plough an extra set of points and wings are given, every purchaser receives eight points and four shares. These are contrived so as to fix into a socket, where they are confined by a single bolt in the most secure manner. A person present at the trial informed us, that the plough in use had been constructed at the manufactory at Boston, from a pattern for the beam and handles sent from this part of the country—they are certainly the most perfectly adapted of any that I have ever before seen.

So soon as this plough had passed, throwing over a furrow to the depth of the surface-staple of the soil only, the subsoil plough, invented by Messrs. Prouty, followed in the bottom of the furrow, performing its operation to "a charm." It was drawn by a pair of small horses, and seemed to follow with an ease that astonished us all, pulverizing the subsoil to the depth of a foot if put to it, and leaving it in such a state, that the lad who guided it, preferred walking on the land-side of the furrow, rather than to drag his feet ankle-deep in the loosened earth; in every respect this implement is *perfect*, and will be the means of augmenting the crops to a profitable extent; opening the subsoil to a depth sufficient to carry off a superabundance of

moisture in a rainy season, and admitting a full evaporation from below in a time of drought—circumstances, essentially favourable to the growth of corn, which every one knows is accelerated by heat, when accompanied by a proper degree of moisture: I therefore consider the subsoil plough the perfection of improved cultivation; but to be able properly to appreciate its services, it is necessary to witness its operations; and although not so easily worked in some soils as in others, it will be found of the greatest service in all, giving the means of gradually deepening the surface-soil, permitting the washings of the manure to descend into the pulverized subsoil, where it will be retained, instead of being permitted to pass off as heretofore, by the impenetrable hard-pan, whenever the earth is glutted with rain; and hence it is, that the soil might be deepened every time it is turned; the operation of subsoiling, however, not being necessary perhaps, oftener than once in three or four years. To witness the subsoil plough passing up and down the furrows to the depth of about a foot, by the strength of a pair of small, active horses, walking about four miles an hour, with the ease, comparatively, that a man might cut cheese with a knife, was to me a treat that I would not have lost for any sum that could be offered; it has opened the subsoil of my own mind, and I calculate the augmentation of its future crops will be pretty considerable. The lad who guided the subsoil plough, and who was competent to the task, was not, comparatively speaking, much higher than the handles; another boy about the same height took his place in his absence, and by these two lads the ploughs upon the farm of Mr. Reybold are worked, in a manner that would do credit to many full-grown men; they are fine lads, and well deserve this notice, which is only their due. And already do I perceive the effect of that subsoiling which I have said my mind has received, for I can now see, that very much of the labour of a farm, which has heretofore been performed by *men*, might be quite as well executed by lads; and the thought just now strikes me, that a great portion of the difference between the value of agricultural labour in this country and England, might be obviated, by substituting the services of lads for that of men; for there is, comparatively, little of the labour on a farm in ordinary times, that may not be performed by stout lads; and I would, therefore, propose that the youths of that description which are so numerous at the alms-house and other charitable institutions of every town and city, might be put to that purpose, receiving in return their food and clothing; the institution, as well as its inmates being thus relieved, one from *receiving* and the other from *paying* the wages of idleness—two states of being, between which it would be difficult to know how to choose. Here would be a saving of another "rent" at once, and the thing would be made to work to a "charm;" for by means of the long handles of the Prouty plough, and the wheel to regulate the depth, a lad of 14 or 15 is quite competent to the task of guiding it. I understand that Mr. Reybold has purchased both these ploughs, and means to go thoroughly into a general system of subsoiling, which will be the means, I have no doubt, of augmenting his crops far more than the amount of their cost the present season; his potatoe-crop showing a nearer approximation to a "Vermonter," than any that has hitherto been grown in this part of the country.

I look forward with anticipation to the "day's ploughing," which is to be given under the auspices of the Agricultural Society of Philadelphia, with ploughs of Prouty's make, as advertised in the pages of the Cabinet; and trust that the committee of arrangement will, in your next number, fix a day for the trial; if it be delayed until the middle of the next month, so that the press of early spring cultivation shall have passed, I shall expect to meet hundreds of my friends upon the joyous occasion. And if such men as he who guided the plough at Mr. Reybold's be present—I remember his name was Thomas—I shall expect to see first-rate work, I tell you—may I propose to Mr. R. to bring him up?

A Subscriber.

March 29th, 1842.

Necessity of Light to Vegetation.

Although philosophers are not agreed as to the peculiar action which light exerts upon vegetation, and there is even some doubt respecting the decomposition of air and water, during that process, one thing is undeniable—the necessity of light to the growth and health of plants; for without it, they have neither colour, taste, or smell; and, accordingly, they are for the most part so formed as to receive it at all times when it shines upon them; their cups and the little assemblages of their leaves before they sprout, are found to be more or less affected by the light, so as to open and receive it. In several kinds of plants this is more evident than in others; their flowers close at night and open in the day. Some constantly turned round towards the light, following the sun as it were, while he makes or seems to make his revolution, so that they receive the greatest quantity possible of his rays—thus, clover in a field follows the apparent course of the sun. But all leaves of plants turn towards the sun, place them how you will, light being essential to their well-being.—*Brougham.*

For the Farmers' Cabinet.

Crack Stock.

Mr. Editor,—A communication under the above caption in your last, signed "Subscriber," surprised me not a little, and doubtless has excited strong feelings in the minds of many others of your readers. I would not unnecessarily impugn the motive of your correspondent, but the tenor of his remarks warrants, I think, the suspicion that he is an enemy to improvement, or is jealous, and hates it in others. To say the least of it, it is ungenerous and unfair.

Is it not ungenerous and unfair that spirited, enterprising agriculturists, who spend their time and money liberally in the production of fine cattle, should not only be derided, but have the character and value of their property depreciated in such envious terms? But what surprised me most was, that such remarks should find place in the columns of a paper devoted to agriculture; for the enemies to Durhams and other imported stock, are to a man, opposed to what they call book-farming. A blow aimed at the one is sure to reach the other. "The improved short-horn Durhams" is the most prominent feature in the agricultural improvements of the day.—The periodicals come next. The spirit and liberality of the importers of fine stock led to the establishment and increase of the agricultural press. So mutually dependent are they, that the one must fall and rise with the ebb and flow of the other. If the wretched cattle that have so long disgraced the fields of Pennsylvania, are to be placed on a level with the distinct breed "Subscriber" sneers at, then may we let well-enough alone — import no more stock, nor subscribe any longer to agricultural papers.

The stock that is now to be found in many places, is the only improvement, I might say, that agriculture can boast of in the present century—cropping and field-labour, with some trifling exceptions, have advanced but little, some hold that they have retrograded; be this as it may, the improved short-horns, with other imported stock, is the most visible, intrinsic improvement that can be referred to in our agricultural history. These splendid cattle, with the sheep and swine we now possess, may be pointed to by every lover of his country with becoming pride, while to their owners they are as oil to the lamp—they brighten their existence, and shed a light around to illumine the path of their neighbours.

No one, Mr. Editor, can rejoice more when any excellence is found in our native breed than I do. Indeed I have done, and am doing my very best to raise them from their original unprofitable condition, to a size and form that may indicate *easy feeding* and *good milking*, but I confess it is an uphill work—without a cross from a pure-blooded Durham, it is a hopeless task, for though you may sometimes happen on a solitary calf that gives encouragement to hope, and in itself individually may repay for the pains bestowed on its breeding, yet you cannot venture to breed from it, for its calves will be found to take after the degenerate stock of its dam or sire. This is inevitable, but to cross it with the noble and beautiful Durham, would lead to quite a different result.

The cow, "Queen of Chester," alluded to by your correspondent "Subscriber," is, or was the property of A. S. Roberts, Esq., Treasurer of the "Philadelphia Society for promoting Agriculture." This cow is all but full-blooded Durham, I believe three-fourths or seven-eighths, which will at once account for her excellence: if every cow in the state had but half the pure blood Queen of Chester can boast of, it would enhance the value of the whole stock some hundreds of thousands of dollars. As to Mr. Potts's stock I know but little. I do know, however, that some two or three years since he sent cows to one of the best improved short-horn Durham bulls in this country. His "red cows" as they are called, may be very fine, and I hope his efforts, either in distinct or cross-breeding, may be crowned with signal success.

One of the least of "Subscriber's" errors, for in tone and character he is all error, is that because an animal has been adjudged a premium, it is then comparable with other animals which have had premiums. This inference shows "Subscriber" to be ignorant of the practice that obtains in distributing premiums by the Agricultural Society. The premium obtained, is proof only of the excellence of the animal in a relative sense; for instance, if an imported improved short-horn takes the premium, it stands first of all, because it is of the first class. If a mixed breed takes a premium, it does not raise it to the value of the former, but shows that it is the best of its class; so with the native, common breed, its premium may not entitle it to rank with the mixed breed, and shows it was distinguished only among its own family. To be more explicit—there were animals awarded premiums at the late exhibition, which, had they had to compete with the worst Durhams on the ground, would certainly have sunk into comparative insignificance; for the truth of this assertion I appeal to the judges who were appointed to award the premiums. It therefore follows, that an animal of an inferior character, though a premium animal, is not from that circumstance raised to an equality with those of higher character and purer blood. I have often been amused to hear

people talk of animals which had taken a first or second premium, as if they were among the best cattle of the land, when in truth I would not own them as a gift, except by way of experimenting with them.

The article appended by "Subscriber" from the "Delaware Republican," is a gross libel on the character and qualities of the cattle that are the pride and boast of the country, and which are owned by the most intelligent and patriotic farmers in almost every state. The writer of that article is either unfortunately ignorant or wilfully malicious—I suspect the latter—his intention cannot be mistaken when he decries the owners of the "high-priced stock," as he has it, by likening them to the Merino speculators, and when he advises farmers to keep themselves clear of cattle that take so long a time "to bring them to an artificial and bloated condition."—Can anything be more false, whether malicious or not, than this? It forms the *very reverse of the character and properties* of the stock he attempts to depreciate, for all who know anything of it, must allow to these cattle two prominent, uniform characteristics—*rapid maturing or growth*, and *easy fed or fatted.*

All of which, Mr. Editor, with your permission, I will on a future occasion establish, to the entire satisfaction of every honest friend to agriculture. Respectfully,

A Practical Farmer.

April 2d, 1842.

For the Farmers' Cabinet.

Potatoes.

"Whether your tale be false or true,
Keep probability in view."

When I read the article in relation to Gen. Barnum's crops of potatoes, in the last number of the Cabinet, I was instantly reminded of the above lines. We are left in the dark with respect to the quantity of ground actually in potatoes, or the number of bushels actually raised. If the general or his measurers took but a hill or two, where the produce was extraordinary, and measured around each hill, it is not so wonderful, as to be altogether incredible, if he should make the yield at the rate he mentions. But if we are to understand that 3410 bushels of potatoes were actually grown on an English acre—and that on five acres 10,719 bushels were grown, averaging, by the way, 2144 bushels instead of 1843—as made by his "mathematicians, who cast up the sums,"—then I cry, "spare us,"—and "when he next such a crop doth raise, may I be there to see!"

I hail from the land of water-melons, blowing sands, fat oxen, and oysters. I have, too, in my day, seen Irish potatoes growing—indeed, I have myself raised very nearly 400 bushels on an acre: and really, even *they* seemed *tolerably thick* on the ground: but only to think—3410 bushels! Why my 400 were but the beginning of a crop!

Well, let us see how close they must have nestled—how many inches thick they must have been, on the ground! 160 square rods make an acre: in these square rods we find 4840 square yards, and this number, multiplied by 9, gives 43,560 square feet in an acre. Now, in 3410 bushels there are 27,280 half-pecks, and if 27,280 half-pecks grow on 43,560 square feet, it will require a piece of ground containing about 230 square inches, to yield half-a-peck; or, in other words, if the hills are a little more than 15 inches apart, each way, all over the acre, and every hill yields half-a-peck, there will be 3410 bushels on the acre; or, if the rows are 2 feet apart, and the sets in the rows about 9½ inches, and every set yields half-a-peck, the acre will turn out about 3400 bushels. Again, as there are about 2150 cubic inches in a bushel, there are about 269 in half-a-peck—and as these 269 cubic inches of potatoes are to grow on 230 square inches of ground, we perceive that the potatoes must lay solid, more than an inch thick!

I am not about to assert the *impossibility* of there having been actually grown 3400 bushels of potatoes on an acre; perhaps, however, I might be allowed to quote an expression I remember to have heard used some years ago, by a venerable and shrewd old gentleman—"if that's so, its true enough." However *improbable* this crop may appear, yet it is perhaps not *impossible.* There are many facts in relation to the growth of plants, as well as ten thousand other things, which would, doubtless, appear incredible to many of us who read the Cabinet, but which it would be very unphilosophical, as well as silly to deny. I recollect hearing the late I. S. of Woodbury, N. J., a man whom his neighbours will allow to have been incapable of misrepresentation or exaggeration, relate, that from a piece of ground of perhaps 4 or 5 square rods, which had for many years been covered by a barn, then recently removed, he had gathered and measured with great care, a yield of rye, at the rate of 115 bushels to the acre! Some ten or twelve years ago I planted my orchard with corn; it was near the house, and the pigs and the chickens, having no fear of trespassing before their eyes, took a good many hills, from time to time, till it was too late to replant the corn. I then told my little boys they might plant the missing corn-hills with potatoes; they did so, putting a whole Mercer potatoe of good size in each destroyed corn-hill. No manure had been used for the corn—none was used for the potatoes, but the ground was good. In

the fall the produce was great: several hills yielded more than half-a-peck each.

I do not introduce these facts with a view to astonish the readers of the Cabinet; though the produce of rye was certainly very extraordinary, and much greater than any crop of the kind I have ever heard of. But I mention them to show my belief in the great power of productiveness possessed by our mother earth. My astonishment at General Barnum's crop would be much diminished should we learn that it was only from a small piece of ground that this wonderful produce was gathered. And yet, I am aware we may be told, if 4 or 5 square rods may so yield, why not a whole acre?

Suffer me to close this article with an endorsement upon the following opinion of a living agricultural lecturer, of great celebrity. "Nothing repays the labours of the husbandman more fully than the willing soil—nothing is more grateful for his attention or offers surer rewards to patient industry, or to renewed attempts at improvement." — *Johnston's Ag. Chem.*, p. 6. Z. Y.

Gloucester co., N. J., 3d mo. 23d, 1842.

For the Farmers' Cabinet.

Soiling of Cattle.

Being called upon in the last number of the Cabinet by J. Godson, for an account of my experiment in soiling cattle last year, I copy from my memorandum-book as follows. 4th mo. 1st.—Chained up under airy sheds 16 steers, a yoke of working-oxen, and 3 cows—a young man employed whose business is to be exclusively, attention to the cattle and the manure. 5th mo. 1st.—During the past month fed at noons with 4 quarts fine-ground Indian meal, mixed in a bushel of cut hay wet, to each beast, morning and evening with long hay—loosed from their stands once a day, and 3 at a time driven to the water-trough and immediately back to their places—throve well. At this date commenced 4 feeds per day, as near 4 hours between as possible, two with 3 quarts meal to a bushel of cut-hay, and two feeds of long hay. 5th mo. 15th.—Thrive remarkably well—have been regularly bedded with straw twice per day, the manure barrowed away, and cattle curried. 21st.—Several steers contracted the foul-claw, in consequence, as I suppose, of walking through some wet manure in going to water; turned all out on a grass lot the last four days—much improved—slacked two bushels lime near the water-trough and drove them through it previous to being turned out, which appears to have cured them. This day commenced cutting grass (orchard and clover well mixed), two feeds of grass, one of long hay, and one of the cut-feed daily. 26th.—The cut-feed discontinued, eating the long hay in preference. 28th.—One of the day feeds left off, substituted by grass, which is and has been eaten voraciously, but producing a lank appearance and loose bowels. 30th.—Eat the dry feed with increased appetite. 31st.—Increase of grass seems to have given a desire for more dry feed; again thrive and improve in appearance. 6th mo. 3d.—Left off the dry feed altogether. 15th.—Removed the cutting to timothy and clover. 16th.—The best of the steers thrive tolerably well, but not so fast I think as my tenant's cattle on good old green grass pasture. 20th.—Cows have milked well until within the last week, now fail in milk considerably from some cause unknown, although eating voraciously—the stale urine running back and softening the earth, the hind feet work it into holes—a pavement wide enough to catch the urine and convey it into the gutter behind would be better. It is estimated that 2½ acres have been cut over once, for the whole herd, up to this time. 26th.—Wet, warm, muggy weather, cattle difficult to keep clean and free from smell of the manure, look worse—concluded to turn out the cows and seven of the roughest steers to make more room for the remainder, consisting of 12 steers and the yoke of large oxen, and that they should have all the attention of the feeder, allowing new room for a steer to swing himself around at his pleasure, the stands being widened from 5 to 10 feet. 7th mo. 1st.—Under this management again improve. 10th.—Feeding on old timothy, green oats, and occasionally green grass; appetites good, eat all the kinds well with gradual improvement in flesh; but it having been 100 days since they were tied up, the grass become too old for further cutting, which is the point at which I had originally contemplated terminating the experiment—and the cattle not sufficiently fat for market, as I had hoped they would be, turned them all out on good meadow-pasture. 18th.—No apparent improvement in the condition of the cattle since turned on pasture. 25th.—Very little if any perceptible improvement in flesh since turned on pasture, with an abundance before them in the said meadow. 10th mo.—These cattle are fit for market, but not remarkably fat.

Above, I have given the history of my experiment in soiling, at least in the management of the cattle, which so far as they were concerned did not, as will be perceived, result to my satisfaction; but there are other circumstances yet to be brought into view; these cattle were young and rough, being the *refuse* of a drove purchased the previous autumn; and therefore not a fair comparison with my tenant's cattle on pasture, which were *choice animals*. I obtained as an extra contribution, 50 cart-lords of the best manure I ever had; it was covered with

a little good mould as soon as the cattle were turned out, and a little had been spread over it every few days during the greater part of the time of its accumulation; was hauled out the latter end of 7th month, in the best possible condition as I believed.

The ground mowed over for the cattle averaged by estimate one acre to three steers or beasts — they were fed from racks and pulled an abundance under their feet, which, however, as it went among the manure, I regarded the less. On the whole, it convinced me that "Vanthace" is right in stating that a piece of grass requisite for pasturing one animal, is by soiling capable of sustaining four, if economy be used in feeding. Although my cattle did not get completely fat in their stands, they appeared to me in general to be more comfortable than afterwards on pasture —always shaded from the hot suns and unannoyed by flies, fed at regular intervals to the full, just room enough between for rumination and digestion; they would testify their satisfaction by chewing the cud, lying on their full stomachs, while the sun beamed or the rains descended without, and by returning mostly from the water-trough direct to their stands without coercion or invitation. I calculated that the manure at $1 per load paid for the labour of attendance, and as an offset against the prolongation of fattening, if indeed they could have been finished earlier on pasture alone, which the quality of the cattle and their age leads me to doubt, I mowed and put away in my barn at least 15 tons of good hay more than could have been done had they been all the time on pasture.

Although convinced of the superior economy of this mode of feeding, I have not ascertained whether cows will milk as well, or beef cattle feed as fast by it, as on pasture— where cattle are to be *kept* rather than *fatted hastily*, I have no doubt of its superiority.

J. Jenkins.

West Whiteland, 3d mo. 25th, 1842.

For the Farmers' Cabinet.

Magnesian Lime.

After noticing the tenor and bearing of the articles published in the last Cabinet, hostile to magnesian lime, I should greatly prefer the course which prudence dictates, and with due deference to your three several correspondents, respectfully decline taking any notice of a controversy from which no good can come and no truth be elicited, much less established.

With all due courtesy, therefore, for your anti-magnesian correspondents, I must decline taking any further notice of their articles, unless they can bring or draw out some one, who can combat the whole array of scientific testimony, already produced in the columns of the Cabinet, from the most celebrated and eminent chemists who have ever applied science to agriculture. In the meantime, we shall be prepared to furnish line upon line to prove from foreign authors and journals, the fertilizing character of magnesian lime in Great Britain and France at the *present day*, eschewing all the past. You will perceive, that the numerous professors and eminent chemists, quoted in the April No. for 1841, who give the why and wherefore, are not noticed by the anti-magnesian writers, nor do they attempt to give any rational, any philosophic explanation, or cause, for their unfounded prejudice.

Having already defined my position in this controversy, I would add, I am opposed to *war*, under any circumstances. I will not, therefore, pretend *myself* to argue the theory of a question so essentially philosophic as the one in controversy, and consequently would not give the rationale of a farmer who shares no better opportunity than myself, the weight of a straw, but yield the matter up to those distinguished and eminent philosophers and chemists of the past and present age, with whom this subject is a settled and decided matter beyond any cavil. With them, I shall stand or fall, adopting their views, the more particularly on account of squaring or corresponding with my own experience in practice. I shall have little to lose in the good opinion of those who think fit to spread a counter-doctrine or system of their own.

I proceed, however, to take a *hasty* review of the several opinions expressed by the anti-magnesian writers in the last Cabinet. C. Taylor, of London-Grove, asserts, his friend near him put on 75 bushels lime, containing only 15 per cent. of magnesia, to the acre, and the consequence was, his land was injured for several years. Well, what are we to infer from this, other than that his friend's lime was very active, and of course injudiciously applied. I presume, in this case, the land was thin, and in some degree destitute of vegetable substance for the lime to act upon. It must be remembered, in all cases where magnesian lime is applied *in large quantity*, a light dressing of stable manure serves to furnish carbon, for which magnesia has not so great an affinity as lime; on account of magnesian lime being longer carbonating, it is more durable than common lime. Had his friend, on that kind of land, applied half the quantity, the effect would probably have been as great as *his own* extravagant dressing of 300 bushels to the acre of Pyle's lime, which he states also contains *some* magnesia. Hence the vast superiority of magnesian over common lime, where it must be hauled a great distance, or under any circumstances, in point

of economy. Next, B. Webb, of Wilmington, Delaware, states, "as far as his knowledge extends, lime is congenial to the growth of plants, and magnesia is not." If friend Webb will push his knowledge to a greater extent in vegetable physiology, he will find that lime and magnesia *both* exist in the formation or constitution of plants, and both form necessary constituents as well as agents in preparing the food of plants. He states further, "in soils where magnesia predominates, the land is always barren." Suppose lime in its purest state should *predominate* in a soil, need I say it would be barren? Monsieur Abbene, a French chemist, fully and satisfactorily explains *this* matter.

Lastly, I come to S, of Luzerne county: although I do not hold myself answerable to anonymous writers, yet, as he puts questions direct to me, it would be ungenerous, after noticing the above articles aimed at S. Lewis —who is abundantly qualified to defend *himself*—not to say a word in reply to S, of Luzerne. He will concede, I think, that his statement in regard to Potts & Dager's lime, "on a heap, not preventing grass from growing through it and spreading over its surface or over the heap," is unanswerable; it would certainly be an anomaly or freak of nature, to say the least, since it is well known, that a pile or heap of straw or hay, and especially stable manure, will not only destroy vegetation, but leave the spot bald long after the heap is removed: the reason is plain, on account of the absence of the primary agents of vegetable growth, the sun, light, and air. But it is certainly admitted on all hands, that a quantity of magnesian lime on a heap, or even spread in too large quantity on the land, will do temporary mischief, for reasons which S, will find anticipated in my article in the last Cabinet. The remedy is obvious: apply it on the land *judiciously*, and to prevent bald spots where the heaps lie, remove some of the surface-soil, or make heaps on the roadside, or where vegetation is not wanted. Of course, about half the quantity of magnesian lime would be, or is, as efficient as common lime; hence the economy of its application. S, is more liberal, and acknowledges magnesian lime is useful; so all the remarks in this article cannot apply to him. In the same article from S, near its conclusion, I notice an insinuation unworthy of him: "Why do these gentlemen use such strong language, if they are not in some way interested in the matter?" I would here just say, that I have limed my farm all over, at a rate exceeding 100 bushels to the acre, and did not, during the whole period, sell one wagon load of lime, preferring, of course, the lime to the money: so I practise what I preach. My farm had previously, at regular intervals, received two coats of lime, at about the same rate above stated. It having been ascertained that nearly *all* the limestones of the United States are more or less impregnated with magnesia, the limestones of Pequea partake of that character. Would it not appear singular, then, leaving theory out of the question, that the strong case in point quoted by S, (I allude to the statement of Mahlon Kirkbride,) wherein a light coat of magnesian lime was supposed to produce disastrous consequences. I could not reconcile this statement with my experience on any other ground, than that Mr. Kirkbride's land was not strong enough for the dose; perhaps a less quantity would have been profitable. Leaving theory, I would ask Mr. S. how he can reconcile the productive quality of the land in this valley, which, he will not doubt, overlays the magnesian limestones, *magnesia forming a component part of the soil*, and they are more or less denuded throughout this valley. While our best farms receive heavy dressings of magnesian lime, it would not be vaunting to say, the land in Pequea in point of productive power, will compare with any in this country or Europe. How, I repeat, are these facts to be reconciled, if magnesian lime were what the anti-magnesian writers represent it to be. The virtues of magnesian lime here, are too well appreciated to require to be "cracked up" by any scribbling from me; and if I have not satisfied S that the "strong language" used is amply justified by the facts, then I can only add, that I am an enthusiast on the subject of improved agriculture, and, of course, can use nothing short of strong language in furtherance of an object so desirable and momentous. Why then, I ask, in view of my own personal knowledge and experience in practice on the one hand, with all the weight of philosophic evidence extant on the other, in support of my theory, should I yield or testify in any but the most favourable manner in support of magnesian lime? It is on this account I propose to take no further notice of the subject, until its advocates can discover some tenable philosophic ground to stand upon. If strong practical instances can be related in opposition to the use of magnesian lime, certainly *more* extensive, strong, conclusive and irresistible evidence, can be furnished *vice versâ*. The subject requires more scientific research than farmers generally are possessed of; they can more easily accuse than substantiate and explain facts. It must be observed, too, that certain soils are unfriendly to lime of any kind, and are not easily improved. As the time has not come to settle this question to the satisfaction of every mind, let the lucid ray of science first dispel the darkness which has ever enveloped this subject, and leave the anti-magnesian advo-

cates to their own ideas, undisturbed, among themselves. I submit, to those who have kept pace with the subject in a practical and scientific point of view, both in this country and Europe, up to the present day, to say, whether the anti-magnesian prejudice, in its general application, is not amply furnished with the elements of its own explosion.

W. Penn Kinzer.

Springlawn Farm, Pequea,
March 21, 1842.

For the Farmers' Cabinet.

Gardening of the Germans.

On a careful re-perusal of the past volumes of the Cabinet—a retrospect to which I, too, am addicted—one is struck with the variety as well as the real practical information which lies treasured up in that small space! At any time and in a few minutes I can reap *a dollar's worth*, and in putting it to interest by transplantation, I am sure to reap a profit of about 50 per cent. at the year's end;—indeed the past volumes of the Cabinet are a never-ending source of pleasure and profit, and I know of no publication which contains in so small and convenient a compass, so large a fund of collected wisdom; for within it, it seems as though you could find about all you seek after, from grave to gay, from playful to severe.

On my return, for the tenth time, to the re-perusal of the first volume—I love to begin at the beginning—I was again exceedingly interested by the article at page 52 on the "Gardening of the Germans;" and it occurred to me, that as many of the present subscribers to the Cabinet do not possess that volume, I might do them service by copying for re-insertion a few of the very judicious remarks of that very talented and indefatigable observer, the late Samuel Preston; while those who have preserved the work from the commencement will thank me for bringing the subject again before them, and all may derive much benefit from the repeated perusal of an article which is so peculiarly interesting and instructive, and from whence all may derive matter for reflection—for comfort, or for reproof.

T. W.

"The Germans had come from a country where necessity had obliged them to raise all they could from a little land; everything they did, therefore, was done well and in the best manner, for they would not undertake more than they could accomplish in due season. They always washed their seed wheat in a tub of water, carefully skimming off all that would swim; and I have known them pick out by hand the largest and best wheat heads and sow it on new land well prepared, to raise the best and cleanest seed, and then, after the wheat came off, put the stubble in with turnips. They generally cleared a piece of land every year for the purpose of raising seed wheat, turnips, and good flax, Dutch wheat commanding an extra price for superfine flour. For seed *corn*, it would be the first they took out of the field, always selecting the largest and most forward ears from stalks bearing three, leaving two or three thicknesses of husks on them, and hanging them up in some building until they shelled it to plant, and then only take about one-third of the ear out of the middle, and never plant any, where the rows on the ears were crooked, steeping the seed in a strong decoction of hellebore roots, to prevent the ravages of birds and squirrels.

"After the oats were up six or eight inches in height, they would roll them down flat, saying, it kept them from lodging, and they headed better; and they certainly raised far better and heavier crops than farmers originally from any other parts of Europe.* As to meadows, they were the people that first introduced IRRIGATION into Pennsylvania; if they had a stream of water that could be led over its bank, it was a primary object to do it. They kept their meadows dressed smooth and fine, and destroyed all bad weeds, so that their hay was clean and sweet; and they were famous for large barns to contain all their produce, and to house all their stock of creatures in bad weather—very careful of their manure, and when snow is on the ground carting the dung out of their stables *direct on their wheat*, spreading it very evenly, saying, it prevented its heaving out with the frost; and then they also seeded the fields for pasture. Living more on vegetables than any other people, they made gardens accord-

* It is the universal practice to roll oats in England, either at the time of sowing or after the crop is up a few inches in height, the former period being better if the soil is dry and not adhesive: the rolling of barley is always done at the time of sowing—but rolling at some period or other is indispensable to the future well-being of the crops. Indeed, the roller is in request at almost all seasons of the year—in early spring on meadows and clover, on spring crops and winter-sown wheat; and at midsummer, on turnips, &c. Few, who are not acquainted with its operation, can estimate its great utility. On meadows and pasture especially, it is necessary, to the cleanliness of the crop and the destruction of the thistle and other pernicious weeds. It is said, a person having occasion to manure a portion of meadow land, it was observed that where the wheels of the cart which bore the manure passed through a bed of thistles, they were entirely destroyed. He therefore rolled the field heavily and repeatedly with a cast-iron roller during the summer, and ever since it has been perfectly free from thistles. Fern, coltsfoot, and other strong pernicious weeds, have been most completely exterminated by the same means.—Ed.

ingly, raising beans in abundance, of which they had better kinds than I have lately seen; and to save seed, they would pick by hand the earliest pods, hang them in a bag, and not shell them until wanted to plant: the same also with their peas, amongst which I never saw a bug. Of cabbage for early kinds, they sowed the seed on a scaffold five or six feet high, to prevent the small fly from eating the plants; and after this fly was done, then they would sow their winter and sour-krout cabbage broadcast.

"To save cucumber seed, they took those that grew nearest the root, puncture the blossom end, and lay that downward on a slanting board, sticking the butt-end full of oats, which on growing would extract the moisture, never taking out the seed until required for planting. The seed from the melon was scraped out and dried without washing, on coarse paper in the shade, never using it after two years old, convinced that the glutinous liquid was essential to vigour of growth and fruitfulness. Description cannot convey a correct idea of the elegance of the management of these good, honest people; but let the best farmers of the Eastern states at the proper season take a tour to Bethlehem, Nazareth, Greatendall, and Christian Spring, in Northampton county, where all the estates belong to the society of the Moravian brethren, and they must admit them to be amongst the best farms in the United States, and that the emigration from Germany has been the making of Pennsylvania."

For the Farmers' Cabinet.

Magnesian Lime, &c.

Mr. Editor,—Allow me, through the columns of the Cabinet, to say a few words, by way of making some brief inquiries. I have been reading with great interest, the conflicting views lately presented in it, upon the subject of magnesian lime. With us of Chester, nothing has been more common than for our farmers to notice and remark upon the different *effects* produced upon the soil by lime, obtained almost in the same vicinity, without being aware of the chemical properties that gave rise to it. The lime of Coatesville, for instance, is very different from some not more than half a mile distant further west, though all in the valley.

That of the village is very white—excellent for whitewash and plastering—maintains its stone form a considerable time after being burnt; and destroys vegetation when put on heavily, or where it has lain in heaps upon the ground. Other lime, farther up, is of a darker colour (called with us "the black lime"), falls much sooner, swells more when slaked, and does not destroy vegetation under the circumstances that the other would. Will some one inform us whether these manifestations attending the "black lime" are those which denote the *absence* of magnesia; and whether the former manifestations denote its *presence?*—and if these are not the criterions to judge by, what are? If the one is more valuable to the farmer than the other, then it is very important that we should have a mode of judging, and discriminating between the two, that would be accessible to all—for all cannot, or at least will not, attain such a knowledge of chemistry, as will enable them to judge of the relative merits of the two qualities of lime by chemical analysis.

Some of our farmers here have favoured the one quality and some the other. Some have supposed that the effect upon vegetation produced by the former, was an evidence of its superior strength; and that therefore, if it did seem to be injurious at first, it would afterwards do much more good, as its effects would be more lasting. But if the injurious effect is produced by being in combination with a foreign substance, and not by its superior strength as lime, then it is very important for our farmers to know the fact. We say, then, "let there be light."

Without knowing any of the authors that have taken a part in the discussion of the subject through the medium of the Cabinet, I could not however but "wonder" whether some of them were not *sellers* of lime and limestone, particularly the friends of the superior efficacy of magnesian lime; otherwise I should be at a loss to discover a sufficient motive for the use of some very unnecessary epithets in their communications,—and even then, I doubt whether such reasoning will be taken for argument.

Again, I notice some writers advocating carting the manure from the yard through the winter into the fields, preparatory to ploughing in, or spreading upon the surface in the spring. Now, our best farmers here think it a great object to keep their manure in the dry as much as possible; and to this end, many of them have very extensive shedding, covering as much of the yard as practicable. Is not the latter plan preferable, and does it not greatly increase the value of the manure? Is long undecomposed manure, as we generally find it in our yards in the spring, in a suitable state to spread upon the surface, either of mowing or pasture fields; or even for ploughing under? If it is, would it not be the interest of the farmer to spread it upon the field intended for corn the next year, preparatory to ploughing down the ensuing fall, or next spring? In that case, the corn-crop would be benefited, and the following one also, whether of wheat or oats. Is the fall the proper time to plough for corn, whether

with manure, as suggested, or without? Some men of great experience are of the opinion, that we ought always to avoid having the surface of the fields bare during the winter season, and therefore oppose the system of fall ploughing; and for the same reason, favour sowing clover among the corn, as a protection to the fields during the winter, after the corn-crop is removed.

Will some of the numerous and able correspondents of the Cabinet make such replies to the above interrogatories, as their importance may seem to deserve? PUBLICOLA.

Chester Co., 3d mo., 1842.

The Gastric Juice.

It is found by chemical experiments that the juice which is in the stomach of animals (called the gastric juice) has very peculiar properties. Although it is for the most part a tasteless, clear, and seemingly a very simple liquor, it nevertheless possesses extraordinary powers of dissolving substances which it touches or mixes with, and it varies in different classes of animals. It will not attack living matter, but dead matter only; the consequence of which is, that its powers of eating away and dissolving, are perfectly safe to the animals themselves, in whose stomachs it remains, without ever injuring them. This juice differs in different animals according to the food on which they subsist—thus, in birds of prey, as kites, hawks, owls, &c., it will only act upon animal matter, and does not dissolve vegetables; while in other birds, and in all animals feeding on plants, as oxen, sheep, rabbits, &c., it dissolves vegetable matter, as grass, but will not touch flesh of any kind. This has been ascertained by making them swallow balls with meat enclosed, with several holes drilled through to let the gastric juice reach the meat; no effect was produced upon it. The use of this juice is to convert what they eat into a fluid, from which, by various other processes, all their parts, blood, bones, muscles, &c., are afterwards formed; but the food is first of all to be obtained, and then prepared by bruising for the action of the juice. Now birds of prey have instruments, their claws and beaks, for tearing and devouring their food; but these instruments are useless for picking up and crushing seeds; accordingly, they have a gastric juice which dissolves the animals they devour, while birds which have only a beak fit for picking and eating seeds, have a juice that dissolves *seeds* and not *flesh:* and it is found that the seeds must be bruised before the juice will dissolve them, and accordingly these birds have a gizzard, and animals which graze have flat teeth, which grind and bruise their food before the gastric juice is to act upon it.—*Brougham.*

For the Farmers' Cabinet.

Philadelphia Society for Promoting Agriculture.

The committee of arrangements give notice that the trial of the Prouty centre draught and subsoil ploughs, will take place at the Lamb Tavern, on the Lancaster turnpike, one mile from the Permanent Bridge, on Thursday the 21st day of April. And as it is the wish of the Society to give every one an opportunity to judge of the merits of these ploughs by actual experiment, the business will commence at 10 o'clock in the morning, and be continued through the greater part of the day. By order.

Philad., April 8, 1842.

Germinating Seeds under coloured Glass.

The following remarks by Mr. Hunt, the Secretary of the Royal Polytechnic Society, in England, relate to a most curious discovery; and one which may prove very useful to the cultivators of rare exotics. We hope some of our readers will be stimulated to repeat the experiments, and to send us the results.

"It is scarcely necessary to explain that every beam of light proceeding from its solar source, is a bundle of different coloured rays, to the absorption or reflection of which we owe all that infinite diversity of colour which is one of the greatest charms of creation. These rays have been long known to possess different functions.

"The light which permeates coloured glass, partakes to some considerable extent of the character of the ray which corresponds with the glass in colour; thus blue glass admits the blue or *chemical* rays, to the exclusion, or nearly so, of all the others; yellow glass admits only the permeation of the *luminous* rays; while red glass cuts off all but the heating rays, which pass it freely. This affords us a very easy method of growing plants under the influence of any particular light which may be desired.

"The fact to which I would particularly call attention is, that *the yellow and red rays are destructive to germination*, whereas *under the influence of violet, indigo, or blue light, the process is quickened in a most extraordinary manner.*

"The plants will grow most luxuriantly beneath glass of a blue character; but beneath the yellow and red glasses the natural process is entirely checked. Indeed, it will be found that at any period during the early life of a plant, its growth may be checked by exposing it to the action of red or yellow light.

"It is with much satisfaction that I find the results to which I have arrived, corroborated by Dr. F. R. Horner, of Hull."

Blue glass for hot-beds could be very conveniently employed.—*New Genesee Farmer.*

To the Editor of the Farmers' Cabinet.

Centre Draught and Subsoil Ploughs.

Dear Sir, — I owe a duty to you and the Prouty centre draught and subsoil ploughs: it is, to thank you for their introduction into this part of the country, and to say I have them both running every day, and the more I use them the more I like them. My father requests you to select a subsoil plough for him, and forward it immediately by the "Burlington" steamboat; Captain Maxwell is very desirous to obtain the centre draught plough which he requested you to select for him. I need not add, they are quite superior to any that I have ever before seen. Yours,

Philip Reybold, Jr.

Fair Mount Farm, St. George's, Del.,
April 4, 1842.

"The Farmers' Land-Measurer, or Pocket Companion,"

Showing at one view the content of any piece of land from dimensions taken in yards; with a set of useful tables. By James Pedder, Editor of the Farmers' Cabinet. Philada.: Thomas, Cowperthwait & Co., 1842.

This little manual has long been a desideratum with the agricultural community, and its real value can only be known by constant use in the every-day business of husbandry; its principles are so simple and easy to be understood, that no one will find difficulty in the way of computation, either of land or crops; for in no case of laying off the one or calculating the quantity of the other, can a difficulty arise, but a solution will immediately present itself.

The measurement of land by *yards* instead of *chains*, will be preferred for general use by the practical man, for where is the farmer who cannot *step* a yard about as exactly as it can be measured? As proof, six men undertook, a short time since, to step off half a mile on the King's road in Delaware, and it is a fact that they all came out within half a yard of the same spot! The difficulty is, to know how to square the land after having stepped off the length and breadth, especially if its form be any but right angled; but this is done by reference to the many hundred ready worked tables contained in the work in an instant of time, and with perfect correctness. To the want of such a book of reference on the spot, is to be attributed the strange and incredible accounts which we sometimes hear, of large crops grown on small quantities of land; and without the use of such a ready, simple, and correct mode of computation at hand, it is not possible but that enormous and conflicting statements must be for ever occurring. In manuring, too, how often does it happen that the farmer would be glad to know how many loads at so many heaps to a load would be required to spread over a certain field! Here he will find the question immediately answered, be the size and form of the land what it might. Again, he may wish to plant a *portion* of a large field with potatoes, cabbages, turnips, or other crops, confining himself to a given quantity of land — his "pocket companion" will show him how many yards long and wide that must be, of whatever shape, to give him that quantity; but without its aid, he may *step off* nine acres instead of six, and his neighbour may sell an acre and three-quarters of grass for an acre, as was lately done in a certain part of the country. Here also he will find how *wide* must be the land — the *length* being given — to form an acre, computed by yards, feet and inches; applicable to ploughing, planting, mowing, &c. Thus, too, in planting trees and computing crops of roots — the plants or rows standing at given distances — the required information is afforded at a glance. In short, this little volume will prove a valuable "companion" to the pocket of the practical farmer in all his walks through life, and enable him to "shorten distances" astonishingly.

The imperial bushel table will form a most valuable page in the book, when an assimilation of weights and measures between this country and England shall have taken place — a circumstance devoutly wished by every one at all interested in the subject, and which has repeatedly engaged the attention of the legislature.

This truly valuable book is sold at 50 cents per copy, and may be obtained from Thomas, Cowperthwait & Co., 253 Market street; at Prouty's agricultural warehouse, 176 Market street; of Kimber & Sharpless, 50 N. 4th street; and at the office of the Cabinet, No. 50, N. 4th street, Philadelphia. — Ed.

Field Notes, or Opening of Summer.

"When spring-time came, I was in my old haunts on the cliffs, observing nature as she proceeded to dress up her fair scenes for the gay season, and greeting the leaves and flowers as they came laughing to their places. I watched the arrivals by every soft south wind. I thought I recognized many a constant pair of old birds who had been to me like fellow-lodgers the previous summer; and I detected the loud, gay, carousal song of many a riotous new-comer. These were stirring times in the woods! The robin was already hard at work on his mud foundations, while many of his neighbours were yet looking about, and bothering their heads among the inconvenient forks or crotches. The sagacious old woodpecker was going round, visiting the hollow trees, peeping into knot-holes, dropping in to inspect the accommodations, and then putting his head out to consider the prospect; and all the while, perhaps, not a word was said to a modest little blue-bird that stood by, and had been expecting to take the premises. I observed, too, a pair of sweet little yellow-birds, that appeared like a young married couple just setting up housekeeping. They fixed upon a bough near me, and I soon became interested in their plans; and, indeed, felt quite melancholy as I beheld the troubles they encountered occasionally, when, for whole days, they seemed to be at a stand-still. At last, when their little honey-moon cottage was fairly finished, and softly lined, they both got into it, by way of trial; and when I saw their little heads and bright eyes just rising over the top, I could not help thinking that they really had little hearts of flesh, that were absolutely beating in their downy bosoms."— *Knickerbocker.*

Notices.

Having transferred our interest in the Farmers' Cabinet to Josiah Tatum, who has, for some time past, been our principal agent in the management of its concerns, and who is personally well known to a large number of our subscribers, we may be allowed to commend the publication to the continued favour of all who are interested in the vastly important operations of agriculture, and in the dissemination of the numerous agricultural improvements of the day.

It appears to us a question of grave import, whether a work of this character shall be well sustained by the public. To the practical agriculturist, who plants, and nurses, and gathers his crops with his own hand, literally eating his bread in the sweat of his face, it is obviously important that he should keep pace with others of his craft, in the amount and variety of his information. To the citizen also, who, for amusement or profit, gives a portion of his time and his care to his small lot, or his more extended farm, it is of consequence that he should be able to avail himself of the experience of others, and thus avoid the disappointments attendant on the prosecution of visionary theories; as well as the losses consequent on injudicious expenditures. To persons thus engaged, the several volumes of the Cabinet afford an amount of practical information, which we believe is not to be met with elsewhere, at the same price.

In retiring from the proprietorship of the Farmers' Cabinet, we flatter ourselves that we shall not be charged with viewing our own labours with undue complacency, if we express the hope that our subscribers are prepared to acknowledge the pledge given two years ago, "that no reasonable exertions should be wanting on our part, to render the work worthy of the notice and support of the agricultural community," has been amply redeemed. We pass it into the hands of one, who, we believe, will do for it all that ourselves could do, and whose exertions will be untiring to make it creditable to himself, and useful to those for whom its pages are more particularly designed.

Josiah Tatum will collect the arrearages from subscribers, who will bear in mind, that though the sums due from them individually are small, the aggregate is of very considerable amount. We invite them to remit the small sums due by mail. We owe much to the kindness of postmasters, in franking such remittances, and we have pleasure in making the acknowledgment.

Kimber & Sharpless.

Philad., 4th mo. 15, 1842.

We acknowledge the receipt of an elegantly-framed lithograph print of Mr. Gowen's "Dairy-Maid," the bull "Leander," and calf "Allan a Dale;" the two latter the progeny of the former, of noble descent and remarkable milking properties. The portraits of these splendid specimens of pure-blooded Durhams are from the pencil of Woodside, from life. An excellent engraving of the cow "Dairy Maid" may be found at p. 57 of the 5th vol. of the Cabinet. An examination of this fine print will amply repay a visit to our office.

To Mr. Daniel Bixley, of Lowell, the publisher of Dr. Dana's very interesting work on the formation of composts, are we indebted for a copy of that book, entitled the Muck Manual, which will be read by thousands, and be the means of improving the condition of the agricultural community throughout the Union. It is on a subject that has not hitherto commanded the attention that is its due; but its novelty and importance will render it a valuable addition to the farmer's library.

A patent bee-hive of novel construction has been deposited at our office for inspection and examination. It is the invention of Mr. Joseph Sholl, Burlington, New Jersey, and professes to be miller-proof and non-swarming. A description will be given in our next, and in the meantime we shall feel pleasure in introducing it to the notice of our subscribers.

As Mr. Tonkin has not yet favoured us with particulars relating to his unrivalled herd of fat cattle, we are reluctantly compelled to forego the gratification promised to our readers in the last number, in the hope that it will be forthcoming in our next. The portraits of the whole of these splendid animals are in the hands of the painter, Mr. Woodside.

The quantity of rain which fell during the 3d month (March), 1842, was ..... 2.84 inches.
Pennsylvania Hospital, 4th mo. 1, 1842.

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